# The Reference Of Housing Economics At The International Level

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**Translator: Dr. Altin Hakan**

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# In The Name of God

## The Omnipresent, The Omniscient,
## And The Omnipotent

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## Dedicated to:

I thank God for giving me strength of heart in all stages of life from knowledge to action.

Dedicated to

> Freethinkers, men and women of the world who think well and have made humanity their profession and have no other goal than God's satisfaction and the progress and prosperity of society.
>
> The success of serving the people through science is a precious and proud opportunity that can be a refuge for the helpless.
>
> Studies on the economy of different countries indicate the existence of a strong relationship between macroeconomic variables and housing sector variables, therefore, the prosperity or recession of the housing market at the international level has an important effect on the entire economy.
>
> Let the world know that we are determined to break the frontier of knowledge and new horizons in the not-so-distant future.
>
> Hereby, we have done our part in adding a leaf to the thick book of housing economics, so that we can build a roof for you.

And it is dedicated to those who dedicated their lives day and night in the way of building a safe shelter for their kind, so that everyone can have light day and night.

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# Chapter One

## The concept of housing economy

Real estate economics is the application of economic techniques to real estate markets. This category tries to describe, explain and predict price, supply and demand patterns. The near field of housing economics is narrower in scope, focusing on residential real estate markets, while research from real estate transaction trends focuses on the business and structural changes affecting the industry. Both cases draw on partial equilibrium analysis (supply and demand), urban economics, spatial economics, basic and extensive research, surveys, and finance.

## Supply and Demand

The housing market consists of two sides: supply and demand and the intersection of supply and demand indicates the equilibrium price and quantity in this market. Based on this, the analysis of the housing market will require the knowledge of the housing supply and demand structure.

We start with the market for new homes, which are part of real gross domestic product (GDP). (The purchase and sale of existing houses are not counted in the GDP.) New houses are supplied by construction companies and families who want to live in a new home apply. New homes are also bought by speculators who buy

homes in the hope that they can sell them at a higher price in the future.

Supply and demand is the framework we use to explain and predict the equilibrium price and quantity of a commodity. A point on the market supply curve represents the quantity that suppliers are willing to sell at a given price. A point on the market demand curve represents the quantity that buyers are willing to buy for a given price. The intersection of supply and demand determines the equilibrium price and quantity that will prevail in the market.

The toolbox includes a presentation of supply and demand that you can use for reference purposes in this and subsequent chapters.

The supply and demand framework applies to what economists call a competitive market. A competitive market is a market that is competitive under two conditions, or more precisely, shows perfect competition:

1. There are many buyers and sellers, all of which are small relative to the market.
2. Goods that sellers produce are perfect substitutes.

In a competitive market, buyers and sellers take price as given. They think their actions do not affect the price in the market.

## Housing supply and demand pattern

In the supply and demand model of a competitive market, none of the buyers and sellers can have much effect on the price. The amount of supply and demand depends on the price of the product in the market.

The law of supply says that with other conditions being constant, the quantity supplied depends on the price, and at a higher price, the

supply will be more and at a lower price, the supply will be less. The law of demand also says that with other conditions being

constant, at a higher price, the demand will be less and at a lower price, the demand will be more.

In a competitive market, the equilibrium price and quantity of a good is determined by the market supply and demand for that good. At prices higher than the equilibrium price, excess supply occurs. This excess supply exerts a downward force on the price and causes the price to return to the equilibrium level.

At prices lower than the equilibrium price, the amount of demand is greater than the amount of supply and causes excess demand. This excess demand increases the price and as a result the price returns to its previous level (equilibrium price). After the price reaches equilibrium, this price tends to persist until another force is imposed on the market.

## Housing demand

However, in the housing needs assessment, things like newly formed households, dissolved households, depreciation, demolition and renovation and even the lack of current housing stock are taken into consideration؛But housing demand (effective demand) is that part of the need that is associated with purchasing power and enters the housing market. The purchasing power or financial power of the household also depends on the income and savings of the past, present and future of the household.

In addition to the financial power of the household, various factors such as the expectation of housing price changes in the future, liquidity and inflation, returns on competing assets, demographic changes, etc. They affect housing demand. On the other hand, it should be noted that housing is not only a consumer product, but also has capital incentives. In a general classification, the housing

demand side can be divided into two categories: consumer demand (real) and capital demand.

Depending on the conditions of the micro and macro economy, the intensity of the presence of the four streams of housing demand in the above graph changes; with the explanation that in the first two cases, mainly economic conditions lead to the entry or exit of people (or financial resources) from the market but in relation to the last two cases, economic conditions often lead to the transfer of people (or financial resources) from one demand group to another.

In a middle-income approach, the demand for low-income housing (consumer demand) is more sensitive to household income and borrowing power and housing prices but the housing demand of high-income households (capital demand) is mainly sensitive to the expected returns of parallel markets.

## Housing supply

Housing supply has special features: first, it consists of two parts: the supply of existing residential units and the supply of new residential units. Second, in the short term, housing supply is inelastic, which is the main reason for the time-consuming process of housing production. Third, the heterogeneity of the housing makes each of the characteristics of the housing, including the strength of the architectural building, the distance from the city center, etc. also has its own function. This issue in the literature of housing economics causes the emergence of the Hedonic function of the housing price.

## Factors affecting housing supply

Housing supply, in addition to its price, is influenced by various factors such as the price of production inputs (land, construction cost, wages, etc.), housing construction credits, construction technology, construction period, production scale, government

policies (taxes, subsidies, regulations, supportive and social housing, etc.), sales waiting time and… In addition, other factors

such as the amount of housing inventory, especially vacant houses, affect the supply of housing. Derivation of the supply function of housing, like other goods, is obtained based on the model of profit maximization of producers.

Housing suppliers are also divided into two general groups. The first group: builders who build housing for personal use; The second group: professional housing builders who build for the purpose of selling.

A look at table number 1 shows that more than half of the new buildings in the urban areas of the country were one or two units, accordingly, households still build a significant part of the residential units built in the country for personal use. Of course, this is less important in big cities; So that in Tehran province, less than 3% of completed buildings were one or two units.

**Table 1-1 Distribution of completed buildings in urban areas based on the number of residential units in 2013**

| | one residential unit | Two residential units | Three residential units | four residential units | fifty-six residential units | Seven residential units and more |
|---|---|---|---|---|---|---|
| **All urban areas** | 31. 9% | 21. 2% | 15. 3% | 10. 0% | 8. 3% | 13. 2% |
| **Tehran Province** | 1. 2% | 1. 4% | 29. 5% | 23. 7% | 16. 3% | 27. 9% |

## To provide a place to live

**A customer viewing real estate listings at an agent's office in Linxia City, China**

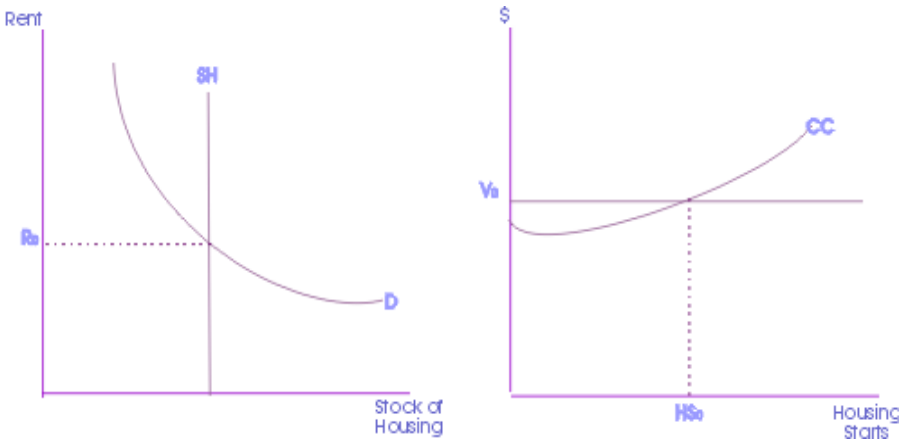
Developers produce housing using land, labor, and various inputs such as electricity and building materials. The amount of new supply is determined by the cost of these inputs, the price of stocks in households, and the technology of production. For a typical single-family house in the North American countryside, the approximate percentage of the cost can be allocated as follows: acquisition costs, 10%; site improvement costs, 11%; labor costs, 26%; material cost, 31%; Financial expenses, 3%; administrative costs, 15%; and marketing expenses, 4%. Multi-unit residential houses are usually divided as follows: acquisition costs, 7%; site improvement costs, 8%; labor costs, 27%; material cost, 33%; Financial expenses, 3%; Administrative expenses, 17%; and marketing costs, 5%. General subdivision requirements can increase development costs by up to 3% depending on jurisdiction. Differences in building codes account for about a 2% change in development costs. The price elasticity of supply is very high in the long term. George Falcis (1985) estimates it to be 8.2, but in the short term, output is highly invariant. The price elasticity of supply depends on the elasticity and constraints of supply. There is considerable

substitution, both between land and materials, and between labor and materials. In high-value locations, developers

can build multi-story concrete buildings to reduce the amount of expensive land used. As labor costs have increased since the 1950s, new materials and capital-intensive techniques have been used to reduce labor costs. However, supply constraints can significantly affect substitution in particular, the lack of supply of skilled labor (and trade union requirements) can limit the substitution from capital to labor. If the area of interest is identified, access to land can also be replaced (that is, the larger the area, the more land suppliers and more substitution is possible). Land use controls such as zoning regulations can also reduce land substitution.

## Adjustment mechanism

The primary adjustment mechanism is a stock / flow pattern to reflect the fact that about 98% of the existing market is old and about 2% is new building flow.

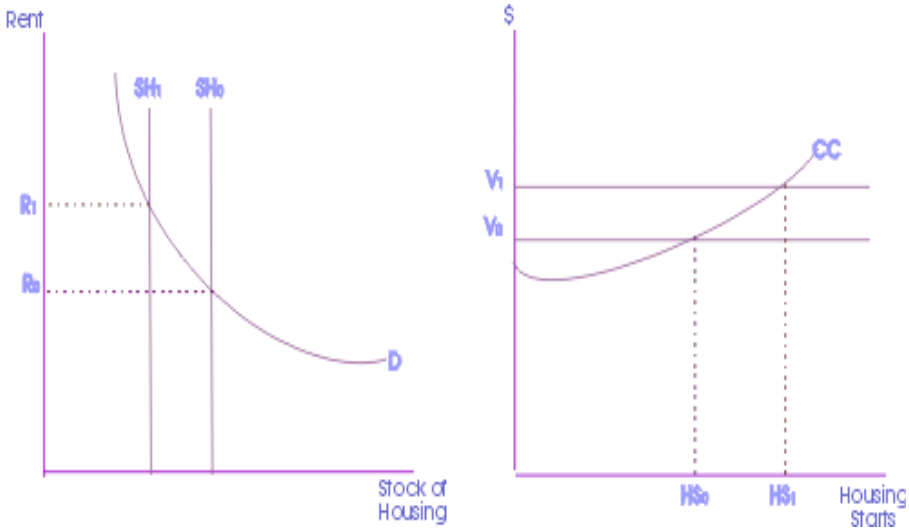



In the chart above, the stock of housing supply is presented in the left panel while the new flow is in the right panel. There are four stages in the primary adjustment mechanism. First, the original readjust price (Ro) is determined by the intersection of the supply of existing stock housing (SH) and the demand for housing (D). This

rent is then translated into value through discounted cash flows(Vo). The value is calculated by dividing the rent for the current period by

the discount rate, which means it is considered permanent. The value is then compared to construction costs (CC) to determine if there are profitable opportunities for developers. The intersection of construction cost and the value of housing services determines the maximum level of new housing (HSo). Finally, the amount of housing construction in the current period is added to the amount of housing construction in the next period. In the next period, the SH supply curve shifts right to the value of HSo.

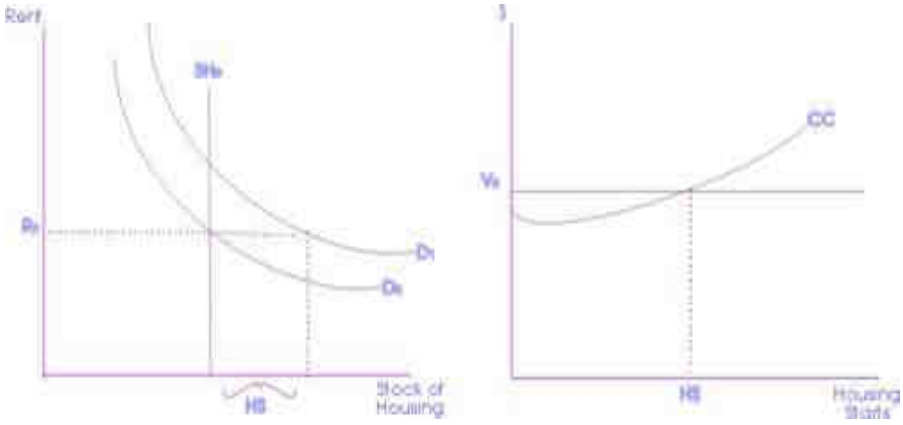
### Adjustment with depreciation




The graph above shows the effects of depreciation. If the existing housing supply deteriorates due to wear and tear, then the housing supply stock will decrease. Because of this, the supply of housing (SHO) shifts to left (to SH1) and leads to a new equilibrium demand of R1. (Since the number of houses has decreased, but the demand is still there). An increase in demand from Ro to R1 causes a change in performance (from Vo to V1). As a result, more houses can be

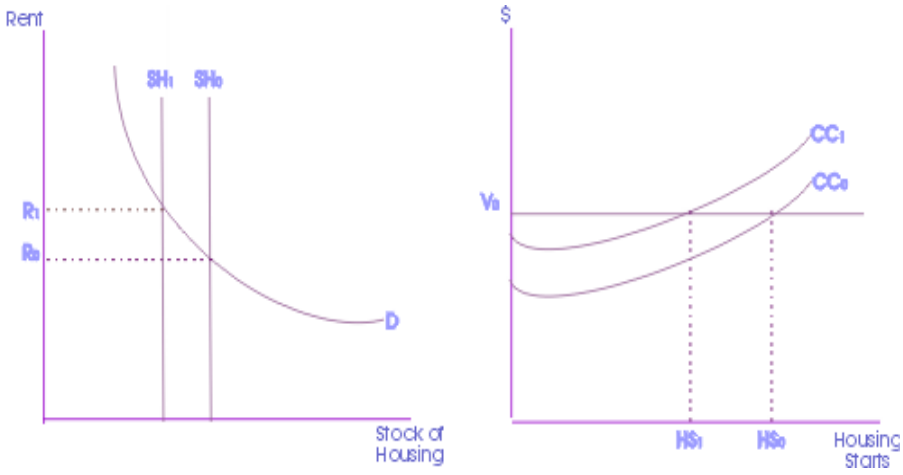
profitably produced and housing starts increase (from HSo to HS1). Then the housing supply returns to its initial position (SH1 to SHo).

## Increase in demand




The graph above shows the effects of increased demand in the short term. If there is an increase in demand for housing, such as a shift from Do to D1, either price or quantity or both will adjust. In order for the price to remain the same, the supply of housing must increase. That is, the supply of SHo should be increased by HS.

## Increase in costs



The graph above shows the effects of the cost increase in the short term. If construction costs increase (from CCo to CC1), developers will find their business less profitable and will be more selective in

their investments. In addition, some developers may leave the industry. Housing starts are reduced (HSo to HS1). This ultimately leads to a reduction in the level of supply (from SHo to SH1) as the housing stock decreases. will tend to increase (from Ro to R1).

## Real estate financing

There are different ways to finance real estate: government and commercial sources and institutions. A home builder or builder of other structures can receive financial aid from savings and loan associations, commercial banks, thrifts, mortgage brokers, life insurance companies, credit unions, federal agencies, individual investors, and builders. Over the past decade, housing prices have risen by an average of double digits each year in Beijing or Shanghai. However, many observers and researchers believe that the fundamentals of the housing sector, especially the macroeconomic sector, may be the driving factor behind the instability of housing prices.

## Savings and loan associations

The most important purpose of these institutions is to give mortgage loans for residential properties. These organizations, also known as savings associations, building and loan associations, cooperative banks (in New England) or home associations (in Louisiana), are a major source of financial assistance for a large portion of America's homeowners. As home financing institutions, they focus on single-family residences and provide loans in that context.

Some of the most important features of the savings and loan association are:

1. It is generally a domestic and local financing institution whose financial management is domestic.

2. It takes people's savings and uses those funds to make long-term amortizing loans to home buyers.

3. This loan is given for the construction, purchase, repair or reconstruction of houses.
4. They are state-centric or federal-centric.

## Commercial banks

Due to changes in banking laws and policies, commercial banks are increasingly active in home financing. In obtaining real estate loans, these institutions follow two main procedures:

1. Some banks have active and well-organized departments whose main task is to actively compete in real estate loans. In areas that lack specialized real estate financial institutions, these banks become a source of residential and farm mortgage loans.
2. Banks purchase their loans by simply buying them from mortgage or brokers.
   Additionally, dealerships, originally used to obtain auto loans for established lenders such as commercial banks, wanted to expand beyond their local area. However, in recent years, such companies have focused on acquiring home mortgages for commercial banks and savings and loan associations. Service companies receive these loans from retail sellers, usually without a referral basis. Almost all bank or service company agreements contain a credit insurance policy that protects the lender in the event of consumer default.

## Savings banks

These depository financial institutions are federally chartered, they primarily accept consumer deposits and take home mortgages

## Bankers and loan brokers

Mortgage bankers are companies or individuals that originate mortgage loans, they sell them to other investors, provide monthly payments, and may act as agents for the distribution of tax and insurance funds.

Loan brokers offer home owners loans with a variety of loan sources. Their income comes from the loan lender just like any other bank. Because they can hit variety of lenders, they can buy through the borrower and get the best terms available. Despite regulations that can favor the big banks, bankers and mortgage brokers keep the market competitive, therefore the largest lenders must continue to compete on price and service. According to Don Burnett of Brightgreen Homeloans in the port of Portugal, Florida, “Mortgage banking and brokerage are essential to maintaining competitive balance in the lending industry. Without it, the largest lenders would be able to illegally influence rates and pricing, potentially harming consumers. Competition drives every organization in this industry to constantly improve its performance, and the consumer is the winner in this scenario. "

## Life insurance companies

Life insurance companies are another source of financial assistance. These companies make real estate loans as an investment way and adjust their securities from time to time to reflect changing economic conditions. People looking for a loan from an insurance company can deal directly with a local branch or a local real estate broker who acts as a loan correspondent for one or more insurance companies.

## Credit unions

These cooperative financial institutions are formed by people who have a common bond- for example, employees of a company, a

trade union or a religious group. Some credit unions offer home loans in addition to other financial services.

## Federally supported agencies

Under certain conditions and fund limitations, the Veterans Administration (VA) makes loans directly to eligible veterans in housing credit shortage areas designated by the VA Administrator. Such areas are generally rural and small towns and cities that are not located near big cities or commuting areas of big cities- Areas where government issue(GI) loans are not available from private institutions. The federally sponsored agencies referred to here are not so-called second-tier lenders that enter the scene after the loan is arranged between the lending institution and the individual home buyer.

## Real estate investment

Real estate investment trusts (REITs), which have been available since the Real Estate Investment Trust Act took effect on January 1, 1961. (REITs), like savings and loan associations, are committed to real estate lending and can and do serve the national real estate market, although some specialization has occurred in their activities. In the United States, REITs generally pay or do not pay federal income tax, but they are subject to a number of special requirements contained in the Internal Revenue Law, one of which is the requirement to distribute at least 90% of their taxable income in the country in the form of dividends to shareholders.

## Other sources

Individual investors constitute a relatively large but somewhat declining source of money for home mortgages. Experienced observers claim that these lenders prefer short-term commitments and

typically limit their loans to less than two-thirds of the value of the residential property. Likewise, if the buyer is unable to receive

the total down payment more than the first proposed mortgage, building contractors accept second loans in case of partial payment of the house construction price. Additionally, homeowners or builders can save money by not paying extra fees by using for Sale by Owner method(FSBO).

## Evaluation of the economic indicators of the housing sector

### Housing indicators

Investigating housing indicators is one of the different means and methods of knowing the characteristics of housing, which can be used to identify the effective parameters in housing and facilitate all kinds of planning and decision-making about housing.

Housing indicators are perhaps the most important and key tools in housing planning. The analysis of quantitative and qualitative issues of housing is done through tools that are variables called housing indicators and they represent different economic, social, cultural and physical aspects of housing. On the one hand, the housing indicators are a tool for understanding the housing situation in the aforementioned dimensions, and on the other hand, they are a key tool for drawing the future perspective of housing and planning it. Investigating housing indicators can be categorized in the form of the following cases:

1. Providing the necessary framework for policy making and planning in housing and monitoring it.
2. Recognizing and explaining the relationships governing different aspects of housing and evaluating the results of different policies.
3. Establishing correct relationships between different aspects of housing that can be used to develop policies.

4. Providing appropriate analytical tools for policy makers and planners with full understanding of developments and transformations.

Housing indices are actually a tool for measuring and assaying the housing situation and its development process, as well as evaluating the success and realization of housing policies. For this reason, in addition to evaluating the situation, programs are also used in formulating quantitative goals.

The experience of different countries in looking at the issue of housing indicators indicates that it is worth paying attention to this issue. Its importance is to the extent that extensive researches have been carried out on the subject of indicators and their results have been published in written form and many scientific articles and reports. Also, serious opinions are exchanged in the form of holding conferences and seminars, examples of which are various global programs by international organizations such as the United Nations and the World Bank. However, housing planning in Iran has a shorter lifespan than other sectors and mainly dates back to the era after the Islamic Revolution. However, the issue of housing indicators as the most key planning and design policy tool has not been fundamentally and comprehensively addressed. Urban housing indicators in Iran have faced significant developments and transformations, especially in recent decades. It is necessary to know these developments and transformations comprehensively and especially the functional economic indicators of housing should be investigated and researched.

**Economic indicators of housing**

The economic dimensions of housing include a wide range of economic indicators, from comprehensive macroeconomics to microeconomics and family economics. The importance of housing in the national economy becomes clear when it is mentioned as one of the main sub-sectors of the national economy. Among all economic sectors, whether in developed or existing societies, housing

development is the largest investment. One of the most important reasons for the importance of housing in developing

countries is that the housing sector accounts for about 5 percent of GDP and 20 percent of total investments in these countries. In other words, regarding the effects of the housing sector on the macro economy, it should be said that the amount of investment, employment efficiency and housing prices are among the factors that affect the macro economy. Investment in the housing sector usually includes two to eight percent of GNP and 10 to 13 percent of gross capital formation in developing countries and another 5 to 10 percent will cause investment flow for other services. Based on this, the direct relationship between macroeconomics and investment in the housing sector and its policies can be seen in housing investment and its development, employment, housing policy and organizational structure, as well as the view of housing as a socio-economic and production investment, not consumption.

By combining direct investment in the housing sector and related services, a total of 20-50% of the production wealth in the countries is obtained. Also, housing is a major incentive for families to save and has an important effect on household consumption. In addition, housing affects inflation, budget deficit, labor movements and balance of payments, as well as government budgets through taxes and subsidies.

The price and cost of housing and subsidies in this sector are important issues in economic dimensions. The ratio of the average housing price to the amount of income is very low in many developed countries that have a favorable housing system, and on the other hand, this index shows a high level in developing countries. In general, if the policies of the housing sector require heavy subsidies for consumers or producers, they will have problems. The review of housing subsidies should be aimed at increasing the efficiency and effectiveness of the programs and preventing its side effects. The

requirement of such a thing is that the issue of provision of subsidy payment in the housing sector is included in the policies and must be carefully defined and clarified

.However, as this affects the housing market, it will create new issues.

During the second development plan of the Islamic Republic (1995-1999), the share of the construction sector in the formation of gross fixed capital was 3.28 percent, which grew by 1.5 percent. Also, the added value of this sector during the program is equal to 4.4% of the total added value in the program and shows a growth of 2.6%. Statistical analysis indicates that in some years, the share of the housing sector in Iran's GDP has exceeded the limit recommended by the United Nations for developing countries. The United Nations predicts and recommends the allocation of about 5% of the gross national product in the 60s and about 6% for the 70s, that is, about 20-25%. Formation of fixed capital the aforementioned examples show the importance of housing in macroeconomics, capital formation, household expenditure basket and income distribution.

In general, it can be said that investing in the housing sector is a productive investment and its difference from other sectors is its long-term efficiency and this investment creates a flow of services that is effective in the production of other sectors. In general, housing economic indicators are indicators that quantitatively show the various economic dimensions of housing and make comparison and analysis possible. Housing indicators in the economic dimension can be examined in both the micro and macroeconomic dimensions, and knowledge of the impact of economic indicators in each of the sectors of the economy effectively helps planners to identify problems and provide solutions.

## Investigating the effect of economic and social factors on housing prices

Both population and economic activities tend to be concentrated in cities. Most housing price fluctuations come from price fluctuations in urban areas؛ therefore, investigating the causes of urban housing

price fluctuations will increase our understanding of the relationship between the housing market and the macro economy.

At the micro level, housing is the largest component of most households' wealth. In fact, for most households, the most important financial transaction is the purchase of housing. Also, the construction of a residential unit is an important part of household expenses, or even better, the entire wealth of the household.

Investigating the housing situation is important from both economic and social dimensions. From an economic point of view, housing is an economic commodity and investment in the housing sector directly affects employment and national income. Also, from a social point of view, housing is an estimate of a social need. Therefore, the review of the developments of the housing sector and the policies and approaches adopted related to it can be an explanation of the situation and a guide for the actors of the said sector.

The factors that influence housing prices are as important to urban planners, builders, the real estate profession, and financial providers as they are to families. Using the Hedonic price model, many studies have been done on housing prices however, a study that simultaneously examines the variables of supply and demand on housing prices has been done less. In other words, in urban economy researches, the relationship between the housing market and the macro economy has been neglected. In Iran, although few studies have been conducted using the Hedonic model, the simultaneous effects of supply and demand have not been considered in the studies.

Tse, Rodgers and Nikliwski (2014) investigated the relationship between real mortgage interest rates and real housing prices in England and Wales after the 2007 global financial crisis. The main

result of their work indicates that the global financial crisis has a long-term effect between monetary policies and housing prices in

such a way that for every one percent increase in the real mortgage interest rate, housing prices increase by 4.6 percent.

Johnson (2014) investigated the existence of a causal relationship between housing prices and the employment status of women in the United States using a general equilibrium model. He was looking for an answer to the question whether the increase in the price of housing will increase the employment of women, or the increase in the employment of women, followed by the increase in household income, will increase the price of housing. The result of his study shows that there is no significant causal relationship between housing prices and women's employment in America.

Balasubramanian and Coulson (2013) examined housing prices on business start-ups during the period 2005-2009. To achieve this goal, they quantitatively modeled this mutual relationship and concluded that the relationship between housing prices and business start-ups depends on the size of the business. Their conclusion was that there is a very strong relationship between housing prices and small business, while this issue is not seen in the case of large business start-ups.

In an article, Angie, Brooks and Ward (2013) investigated the impact of macroeconomics on the dynamics of the housing and real estate market in the United States of America during the period 1960-2011. The primary result of their work was that the sensitivity of the housing market to macroeconomic changes is dependent on economic periods and they state that policymakers can accelerate the change of economic periods through changes in interest rates.

In an article, Baltratti and Morana (2010) investigated the relationship between general macroeconomic conditions and the housing market in the G7 region. They state that there is a

bidirectional relationship between housing price volatility and global supply sector shocks.

In an article, Eggert and Leonard (2008) discussed the existence of the Dutch disease phenomenon and its effect on the economy of Uzbekistan in the period of 1996-2005. They state that the changes in oil prices in the period under review had a significant impact on the real exchange rate, non-oil industry products, and the price of immovable goods such as housing. The regression results of their work indicate that the increase in oil prices had significant effects on both the oil and non-oil sectors. However, although the increase in the effective real exchange rate had a significant effect on the oil sector, it did not have any effect on the non-oil sector and immovable goods. Goodhart and Hoffman (2007) state that it should also be taken into account that the price of housing can show a kind of index of market tendencies and needs and even be a predictor of macroeconomic variables, such as future inflation.

Del Negro and Otrok (2007) investigated the effect of expansionary monetary policy on the increase in housing prices during the period of 1986-2005 using auto-regression model. The results show that the effect of monetary policy shocks on housing prices was small and insignificant in relation to the volume of recent fluctuations.

In a study, Black and Hu (2007) investigated the relationship between excess liquidity and asset prices on a global scale during the period of 1984-2006 using real GDP variables, GDP adjusting index, short-term interest rate, money supply, product price index, oil price, and housing price index for ten member countries of the Economic Development Cooperation, the Eurozone and an auto- regression model. Monetary reactions show that liquidity decreases with the decrease in interest rates, and the change in product results in a positive monetary reaction. The results of the analysis confirm that liquidity and interest rates are important price determinants in the real estate sector

Davidoff (2005) considered the housing price as a function of variables such as stock price index, land price index and new

investment in the housing sector and investigated the effect of these variables on the housing price. The estimation results of his model show the sensitivity of housing prices to the shocks of macroeconomic variables. Also, the relatively large and significant number of housing price elasticity compared to wages, the small and negative elasticity of housing prices compared to real interest rates, and the significant negative price elasticity of housing relative to the value of capital shares in this model are significant.

Ahearne et al and others (2005) examined the fluctuations in housing prices by examining 18 industrialized countries in the period of 1970-2004 using the VAR model and with a special focus on monetary policy. The results of their work show that with the implementation of expansionary monetary policy, the increase in housing prices happened earlier but then rising inflation causes monetary authorities to implement contractionary monetary policy before housing prices peak.

Ludwing and Slok (2004) investigated the relationship between stock price index and housing price with consumption in countries that are members of economic development cooperation. They also investigated the causal relationship of model variables using Granger causality test and they came to the conclusion that disposable income per capita, stock market index and housing price are all Granger causes of private consumption per capita. In addition to this, the stock market index and per capita disposable income are the Granger causes of housing prices, but private consumption per capita is not the Granger cause of housing prices.

In their study, Tsatsaronis and Zhu (2004) collected information on seventeen industrialized countries in the period of 1970-2003 and using the self-explanatory regression method, the most important factor affecting the housing price is the inflation rate and this factor,

on average, has explained half of the housing price changes in different countries. And in the short term, the effect of this variable

has been more and up to 90%, and other effective factors are bank credits, short-term interest rate and profit margin.

Leung (2004) in his study in Hong Kong has realized the relationship between macroeconomics and the housing market. In this study, housing prices are affected by population growth, income changes, construction costs, and interest rates.

We will discuss the concepts of supply and demand and the factors affecting them in order to check the price of housing, which is obtained from the equality of housing supply and demand. In a perfectly competitive market, the quantity demanded as well as the quantity supplied is a function of price, assuming the stability of other conditions. In fact, in principle, the general supply and demand functions are formed in such a way that the supply and demand values (as the dependent variable) depend on the price (as the independent variable). In this case, the equilibrium price and quantity are determined from the mutual influence of the total supply and demand functions.

If we consider housing as a heterogeneous product, the Hedonic method is used to estimate the price. But in this research, considering that housing is considered as a homogeneous product and based on the theory of consumer behavior, which tries to maximize the level of utility at each specific level of income, the housing demand function is extracted. Also, by using the Lucas supply theory, the housing demand function for Iran's economy has been extracted.

Since the equilibrium price of housing is obtained from the equality of housing supply and effective demand, in order to answer the main question of the research, it is necessary to define the concepts of potential demand, effective demand and supply of residential units.

The amount of need for housing at a point in time (one year or a planning period) which is equal to the number of households in need of housing is called potential demand. However, the effective demand for housing is actually the classic definition in economic texts.

Effective demand is a need that is accompanied by desire and purchasing power and can satisfy the remaining requirements in the housing market.

Thus, in equilibrium conditions, the number of residential units supplied each year is equal to the effective demand for housing. The difference between demand (potential demand) and supply (effective demand) is defined as the lack and insufficiency of the housing market.

## Housing demand

The housing demand function is also defined like other goods. Some of the characteristics of this product have made housing different from other consumer goods and services; Because housing is an immovable commodity and therefore its use depends on the change of the consumer's location. Also, considering that the housing applicant is a household instead of an individual, so the theoretical foundations of consumer behavior, which is based on the economic behavior of each individual, should be discussed about the household. Therefore, household characteristics are also effective in the amount of housing demand. Since every econometric model is formed based on an economic theory, the housing demand function is not exempt from this and different methods are used in its estimation.

In research, housing can be considered as both a homogeneous and a heterogeneous commodity. If we consider housing as a

heterogeneous product, we should follow the difference in the price of residential units using the Hedonic price model. In this research,

housing, like other common goods, is assumed as a homogeneous good and based on the theory of consumer behavior, which tries to maximize its utility at any given level of income, the housing demand function is estimated. Based on this, the economic and social variables affecting the desirability are among the factors influencing the housing demand.

## House price

The housing price is one of the main components of housing demand and supply functions, and so far no statistics and information have been prepared about its price in a time series. The statistics published by the Central Bank regarding the construction and housing sector show that these statistics and information are mainly related to the housing price index. This index includes:

1. The price index of residential houses (villas and apartments)
2. The cost of maintenance and repair of private houses and
3. Construction services, which mostly represent the price index of housing rent.

## Population

The population has a great impact on housing demand, both in terms of size and age composition and its displacement in different regions. In other words, the increase in population generally increases the demand for housing, and on the other hand, the increase in the young population and the increase in the marriage rate and population density of a particular region will increase the demand for housing.

## The per capita income

Blackley (1999), Follain (1979), Kenny (1999), Lee and Eng Ong (2005) state that an increase in income causes an increase in housing demand. The increase in income increases the demand for

larger houses that are more desirable and located in the suburbs, causing the population to not concentrate in the city center, because with the increase in income, households will be able to afford the costs of dead heading pay to work.

## Credits paid to home buyers

In the first stage, the demand is a function of the price of goods and income. Normally, paying off a loan increases people's financial strength. Therefore, the amount of the loan or its interest rate is considered as one of the variables influencing the demand. The opinions of Aoki, Proudman and Vlieghe (2004) include the fact that the ease of financing leads to an increase in the demand for residential units. However, Rafiei (2013) states that the increase in facilities only in the same period leads to an increase in housing demand, but in the following years, due to the current inflation, the credit facility ceiling will not be economically efficient.
In Iran, due to the low bank interest rate, the credit demand function is not affected by changes in this rate, so we enter the amount of credit into the model. Of course, in the conditions of limited financial resources, with the increase in loan demand and new financial resources, the loan interest rate will increase, which will increase the final investment cost.

## Tax

One of the factors influencing housing demand is the net cost that the owner of the house is required to pay. Housing usage cost is basically the monetary amount of the net cost of housing maintenance for a period. For housing, this net cost is the difference between the gross cost (mortgage interest, depreciation, property taxes, and building maintenance) and the gross profit (capital profit). According to Blackley (1999), Harter and Dreiman (2004),

Wollstripes (2002), the increase in housing tax will reduce the demand for residential units.

## The unemployment rate

An increase in employment causes an increase in household income, and as a result, the demand for housing and then the price of housing increases.

## Rental price

The mentioned index represents the price of alternative goods for housing, it means that every household either owns its own residential unit or by renting a residential unit, it meets its housing needs by paying the price (rent). An increase in the price of housing substitute goods will shift housing demand to the right.
According to the above, it can be said that factors such as housing prices, rental price, unemployment rates, taxes, credits paid to housing buyers, per capita income from the economic aspect, and population from the social aspect are effective on housing demand.

## Granting construction credits to manufacturers

According to Khalili Iraqi and Sayeh Mousavi (1999) and Dalal Pourmohammadi (1999) quoted from Rafiei, granting credits and residential loans to the private sector increases housing construction.
Other researchers consider the interest rate effective on housing supply. Interest rate is the cost of using capital by manufacturers. An increase in the real interest rate will reduce housing construction. In other words, it can be said that the increase in the interest rate of credits paid to the producer reduces the supply of housing by reducing the net profit.

## Gross domestic product (GDP)

Housing has a large share of the macro economy. Leung's (2004) comments indicate that the growth rate of the national GDP has an effect on housing prices. Likewise, Dalal Pourmohammadi (1379)

quoting Rafiei considers the growth rate of the national gross product as an effective factor on housing supply.

## Government spending in the housing season

Under the conditions that the income growth of households is insignificant or even zero, the government should provide housing for said households. Since these projects are not self-financed, the government must cover the gap between the final cost and the final value of the projects. In the period of economic recession, the emphasis of public policies should be more on the construction of units with smaller sizes, so that it is possible to accommodate more households.

## Price index of construction inputs

Blackley (1999), Somerville (1999) and Khalili Iraqi and Sayeh Mousavi (1999) state that the increase in the price of construction inputs such as the wages of workers and construction materials has a negative effect on production by increasing the cost of building production؛ Of course, if the increase in wages and prices of materials is lower than the increase in housing prices, we cannot expect a decrease in production. Likewise, assuming other conditions remain constant, the increase in input prices will lead to a decrease in production.

## Building permits issued

Local characteristics, such as the limitation of buildable land, affect the construction of new residential units. Dawkins and Nelson (2002) state that the policy of preventing the development of the city limits increases the price of land, but home builders don't always respond to higher priced land. In other words, they compensate for the lack of land by increasing the density of

residential units. Nevertheless, allocating suburban lands to the production of residential units increases the supply of housing.

According to the above, it can be said that factors such as housing prices, the amount of credits allocated to the construction sector and its interest, national income, government expenditures in the housing supply season, the price index of construction inputs from the economic dimension, and the issued building permits from the social dimension are effective on housing supply.

# Chapter two

## Housing economy in different countries of the world

Greater tax generation, job creation, economic development opportunities, increased job retention and productivity, and the ability to address inequality—all are among the economic benefits of increasing access to quality, affordable housing.

A report in 2004 found that there is a detrimental relationship between high housing costs and employee attraction, productivity, and retention, which hurts businesses and the community's economy. Since then, the impact of the high cost of housing in the United States, both renting and owning a home, has only increased. Freeing our local, state and national economy from the tension created it helps everyone when housing is not affordable.

Hear from these economists, housing experts and government officials about just some of the economic impacts of housing.

## Economic Development

Pittsfield is a postindustrial New England city with a population of 45,000, that is rebuilding after a long period of economic decline. We were a one-company town that had to work on creating a diverse economy. We can see how not investing in many of our neighborhoods with concentrated poverty is reducing housing

values. Now we must turn our attention to rebuilding our neighborhoods.

I firmly believe that job creation, business development and established neighborhoods are all part of economic development. In my position, I speak to business leaders. I talk to the residents. A common theme I hear is that we have insufficient housing for business expansion. If we want to solve both of these problems, housing is certainly part of the economy.

## Income inequality

“As the cost of housing increases in a community, people may not be able to afford the cost of living there, so they move out more. Moving away from hot markets may prevent people from working in higher-paying places. This hinders the ability of businesses to hire workers and is not good for local economies.

Higher housing costs in higher-wage markets may also exacerbate income inequality, because households with less education and lower income are especially likely to be unable to afford housing in denser and more expensive areas. While local decisions may be key drivers of rising housing costs. The pressure on the economy and its contribution to income inequality is more visible on the national stage.

## Attracting and maintaining trade and production

Home affordability is an economic issue. Consider Indiana, which is one of the top manufacturing states in the Midwest. Manufacturers have something to say because they have factory jobs, but the communities in which they do business lack affordable housing and labor- homes between $100,000 and $250,000. We have a large car

factory in southern Indiana, but we don't have enough affordable housing to meet the demands of builders or the vendors they work

with. Bankers have something to say because they have money to lend to families, but not enough housing that workers can afford.

Affordable housing doesn't just help families, it helps local government, the Chamber of Commerce says. When we bring families into the house, they can start paying property taxes and if they have a house they can afford, they have more disposable budget for food and other consumer goods. They help local businesses because they can eat at restaurants and shop at stores.

## Additional "hidden" costs

What health care and education costs could be avoided if all families with children lived in a stable home? This figure has been estimated at 111 billion dollars during 10 years. “This is based on the health-related costs of mothers and children who have either experienced homelessness, moved two or more times or fallen behind on their rent in the past year. Costs associated with unstable housing include increased hospitalizations, outpatient visits, dental procedures, mental health care for mothers, and special education services for children.

## The effect of housing prices on economic stability

The unprecedented and sharp increase in housing prices during the Covid-19 pandemic caused serious concern to policymakers. On the one hand, its effect on inflation was significant, and on the other hand, the possibility of the housing market falling due to a possible housing bubble was worrying. As a result, many central banks, including the US Federal Reserve System, began raising interest rates to curb rising inflation and cool the housing market. US Federal Reserve Chairman Jerome Powell has made it clear that his desire to bring home prices to fair value is one of the reasons behind the Fed's restrictive monetary policy in 2022.

The relationship between house prices and economic activity has been a topic of interest for economists since the Global Financial Crisis (GFC). In this research, we are going to examine two questions related to this issue:

1. The impact of housing prices on economic growth and the possibility of asymmetry in this regard.
2. Also, the impact of housing price fluctuations on economic stability and its potential consequences on economic growth

According to this point, many studies have been conducted at the total and household levels that examine the impact of housing prices on key macroeconomic variables, such as economic output, consumption, residential investment, and inflation. Interestingly, Beltrati and Morana (2010) find that the impact of housing price shocks on the macroeconomics is even stronger than on the stock market.

Case and Quigley (2008) state that problems in the housing market have significant economic consequences such as reduced consumer spending, reduced housing starts and completions, and reduced overall residential investment. They also document the strong negative impact of falling house prices on household incomes and the financial industry, including its impact on construction and housing services and reduced demand for home financing, as well as an increase in the number of mortgage delinquencies. Many studies find a bidirectional relationship between housing prices and economic activity. When it comes to the impact of housing prices on consumption and investment and thus on the overall economy, the literature suggests two different channels. The first channel is "wealth effect".

According to Molyauer and Murphy (1990), Homeowners whose housing wealth increases due to rising home prices, increase their

consumption of non-housing goods and servicesv.However, if this increase in housing prices is expected for a long time, it will not

affect consumption. In short, the wealth effect will be more effective when house price increases are unexpected. The second channel through which housing prices affect the economy is the "collateral effect".Aoki et al. (2004) argue that housing prices affect consumption through collateral effects instead of the traditional wealth effect. They believe that credit friction plays a vital role in housing consumption and demand. They note that following the deregulation of the UK mortgage market, access to home equity is much easier.

The relationship between housing prices and economic growth has been widely studied and documented by various researchers. Miller et al. (2011) defined collateral and wealth effects in terms of the effects of predictable and unpredictable price change components. Their study on 379 regions of the United States between 1980 and 2008 found that the marginal effect on gross municipal product (GMP) growth was treble stronger than the wealth effect.

Simo-Kengne and colleagues. (2012) found that while the wealth effect is more important for the growth of South Africa as a whole, the side effect is more pronounced in the economic growth of some regions. The exhibition (2017) examined the impact of declining financial and housing wealth on macroeconomic activity in the United States and found that it contributed to the increase of 1.2 and 3.3 percent of the unemployment rate during the years 2009 and 2010. In addition, the decline in real US GDP due to declines in household wealth (i.e., both housing wealth and financial wealth) was 4.5 and 5.4 percent, respectively, with more than 40 percent of the impact attributable to declines in housing wealth.

Eisenman et al (2019) found a positive relationship between housing price increases and economic growth in 19 OECD and non-OECD countries from 1975 to 2013. But he discovered that the

effect of housing price reduction on economic growth is non-linear and dependent on the specific factors of each one. However, the

negative economic impact of falling housing prices can also be significant. However, there are some works based on the "collateral effect" theory that can provide an explanation of the possible asymmetric impact of housing prices on economic growth.
Guriri and Iacovilo (2017) link the asymmetric impact of housing prices on the economy to its collateral effect and consider this effect central to the 2008 crisis. Their model shows that foreclosure restrictions decrease as housing prices boom, weakening the economic impact of housing wealth. However, the model also predicts constraints that are exacerbated when prices fall. The latter effect, along with the positive effect of interest rates on housing, puts the economy into a deep recession.

Similarly, Garriga and Hedlund (2018) show that consumption is much more sensitive to house prices during housing busts than during booms due to the fragility of mortgage debt. More specifically, the price elasticity of consumer housing in the recession period is more than double in the boom period.

Another explanation for the asymmetric impact of housing price changes on economic growth and the negative impact of housing market fluctuations on economic stability can be the impact of housing boom crowding.

Farhi and Tirol (2012) in a theoretical paper that analyzes the consequences of logical bubbles for financially constrained companies, found that bubbles destroy investment when liquidity is abundant and destroy investment when liquidity is scarce Experimental findings of Chakraborty et al. (2016) regarding the lending behavior of banks during the housing boom also supports the above theoretical proposals. They find that banks increase mortgage lending at the expense of commercial lending during

housing booms, with the biggest impact on firms that depend on bank credit. Such a reduction in investment would have a negative

impact on economic growth, although the net economic effect of rising house prices could still be positive.

The negative economic impact of housing price reduction can also be significant. Limmer (2013) showed that while residential investment accounts for only a small portion of GDP growth, it plays a significant role in causing recessions. His study found that housing complications preceded the US recession in 9 of 11 cases from 1947 to 2010 and it helps significantly to weaken GDP growth before a real recession. In 7 of the 11 cases studied, the housing market was the main cause of the US recessions. These findings show that the biggest decrease in residential investments is due to the decrease in housing prices and demand. In addition, housing price fluctuations may also have a significant impact on economic fluctuations.

In their study, using data from the United States from 1975 to 1993, Delde and Tiriroglu (2002) discovered a significant relationship between changes in housing price volatility and personal income growth at the national and regional levels. Their results show that an increase in house price volatility is associated with a significant decrease in income growth, while a decrease in house price volatility is associated with an acceleration in income growth. Furthermore, the findings show that housing yields initially move against changes in housing price volatility.

Similarly, Davis and Heathcote (2005) suggest that residential investment volatility has a greater impact on the business cycle than business investment volatility and that it moves along with non-residential consumption and investment. Therefore, residential investment may cause significant fluctuations in economic returns through a ripple effect. These findings suggest that higher housing price volatility leads to higher economic volatility, which can

negatively affect long-term economic growth as suggested by some economic literature.

This supports the risk-return trade-off theory and suggests that investors demand higher (lower) returns when faced with higher (lower) risk. Hence, the decrease (increase) in housing yield following the increase in housing price volatility leads to decrease (increase) in income growth.

However, the findings related to the impact of housing price changes on the economy in the economic literature are not conclusive. While some works show a significant and asymmetric impact of housing prices on economic growth, there is no evidence to support these claims, in addition, there is a lack of empirical work to examine the relationship between housing price volatility and economic volatility. Although there are studies that examine the impact of housing price volatility on economic growth or on residential investment and price misalignment in the business cycle, there are no clue that directly assess the relationship between housing prices and economic volatility.

## Investigating housing supply in different countries of the world

The responsiveness of housing supply to price changes has important implications for the evolution of housing prices and the adjustment speed of the housing market. Based on a stock flow model of the housing market estimated in an error correction framework, this paper estimates the long-term price elasticity of new housing supply in 21 Organization for Economic Co-operation and Development (OECD) countries. Estimates indicate that the responsiveness of housing supply to price changes is different in different countries. It is relatively more flexible in North America and some northern European countries, while it is more rigid in continental European countries and in the UK. Responsiveness of housing supply depends not only on national geographic and urban

characteristics but also on policies such as land use and planning regulations.

Responsiveness of housing supply to price changes is a vital factor in the functioning of the housing market. It determines the extent to which the housing market responds to demand shocks with increased construction or higher prices. This has potential implications for the evolution of key housing market outcomes such as housing prices and affordability. For example, available evidence suggests that in supply-constrained markets, more adjustments in housing prices occur than increases in housing supply. Other evidence suggests that regions with high supply responsiveness experience relatively small price increases following demand shocks.

House price "bubbles" are more common and last longer in areas where supply is inelastic. Supply conditions are also important for housing price fluctuations and overall economic stability. Unresponsive housing supply can increase the sensitivity of housing prices to demand shocks and thus affect private consumption patterns and residential investment. For example, in the short to medium term, an increase in housing demand will be more responsive to a smaller increase in real house prices in areas with housing supply. However, the flip side is that in areas with flexible supply, housing investment adjusts more quickly to greater changes in demand, contributing to greater cyclical fluctuations in economic growth, as witnessed by recent developments. Therefore, quantifying the responsiveness of housing supply according to prices can clarify the evolution and fluctuation of housing prices in OECD countries. It can also provide valuable information for housing policy reforms aimed at reducing housing price volatility and increasing macroeconomic resilience to shocks.

Despite its importance for the analysis of housing markets and policy, there is very little cross-country empirical evidence on the responsiveness of supply with respect to prices, partly reflecting

data limitations. This paper aims to fill this gap by estimating the long- term price elasticity of new housing supply for the 21 OECD

countries for which data are available. The analysis is based on a stock flow model of the housing market. The price elasticity of new housing supply is estimated separately for each country over the period from the early 1980s to the mid-2000s as the price coefficient in the long- term supply equation, which is jointly estimated with the long- term price equation. The error correction framework of this empirical approach has the advantage of being simple enough that comparable estimates can be obtained for a large number of OECD countries and are based on sound theoretical foundations. Abundant evidence suggests that housing markets adapt slowly to changes in market conditions due to other factors, including product heterogeneity and high search and transaction costs. The error correction framework employed in this paper takes into account such slow adjustment of the housing market. Empirical results show that housing responsiveness varies significantly across countries and has potential implications for the speed of adjustment in housing markets. The supply of new housing is relatively flexible in North America and some northern European countries, while it is tighter in continental Europe and the UK. For example, long-term supply elasticities in the United States, Canada, Sweden, and Denmark are above unity, indicating that housing production rises relatively more than prices in response to a demand shock. On the other hand, the responsiveness of the housing supply in countries such as Switzerland, the Netherlands, Austria or Italy is very low. These estimates are generally consistent with conventional and primary evidence. Responsiveness of housing supply depends not only on national geographic and urban characteristics but also on policies such as land use, planning and rental regulations. While the link is difficult to establish empirically due to data limitations, we provide suggestive evidence that cumbersome land-use regulations and

planning in OECD countries are associated with less responsive housing supply in the long term.

## What factors affect the responsiveness of housing supply to prices?

Differences between countries in the long-term price response of housing supply are related to political and non-political factors. First, geographic and demographic conditions, such as the physical limitations of land for development, can limit the supply of land in certain areas and negatively affect housing supply in the long term. Indeed, a simple cross-country correlation shows that the estimated elasticity of housing supply is lower in more populous countries.

# Chapter Three

## Housing economy: recession or boom?

What are the causes and factors that determine housing price fluctuations and the cause of strong and stable periods of prosperity and recession in the housing market? During the last two decades, Iran's economy has witnessed the most fluctuating changes in housing prices, and severe booms and recessions have occurred in the housing sector. Extreme stagnation and booms in the housing market can have harmful effects on the economy and other sectors.

The housing market is one of the most important components of the country's economy, which is directly affected by economic policies. A correct analysis of the housing market situation and a correct understanding of the major factors affecting it and the degree of influence of each of them can help the planners and officials in the correct analysis and prediction of the future situation and provide suitable solutions accordingly.

Since the economic conditions of any country depend on the performance of its sub-markets and each market is affected by its competitor and alternative markets due to the portfolio allocation strategies adopted by small and large investors therefore, controlling and restraining the fluctuations of each market

depending on the degree of dependence of that market with other markets and its position in the economy can prevent stagnation and turbulence in all markets and the country's economy. In the meantime, due to the high share of housing costs in households' consumption basket, it is extremely important to pay attention to this market and with the emergence of stagnation and prosperity in this market, the economy as a whole will experience critical conditions and the wave of turbulence will reach other investment target markets with a few periods of delay.

Studying the housing market is important both in terms of the fact that it is an asset and in terms of the services it provides as shelter. Considering that housing is the main asset of most households, the downward trend of housing prices destroys a significant part of household wealth. On the other hand, if we look at housing from the aspect of shelter, the importance of its price fluctuations for the government can be even greater because housing price fluctuations are a threat that challenges the goal of ensuring people's access to housing,therefore, in making decisions and policies, governments should pay special attention to unusual trends in housing prices and their causes.

Although various studies have been conducted in recent years in the field of housing economy, which are mentioned in the next section, however, no study has been conducted on the identification of factors affecting the probability of boom and bust cycles in the housing market in order to prevent extreme fluctuations in this market.

Tsatsaronis and Zhu (2004) in their study collected information about 17 industrialized countries in the period from 1970 to 2003 and to explain the factors affecting housing prices from five variables including:

1. GDP growth rate as a measure of the state of the business cycle and household income.

2. Inflation rate based on consumer price index
3. Short-term real interest rate
4. The profit margin is based on the difference between long-term and short-term government bonds
5. and the growth rate of bank loans

The results of using the vector auto regression method in this study show that the inflation rate is the most important factor affecting housing prices. Inflation rate on average explained the changes in housing prices in the studied countries. The effect of this variable in the short term has been more and up to 90%. Among other effective factors, we can mention bank credits, short-term interest rate and profit margin.

Neunkirchen & Lang (2005) used a regression model in which house price was the dependent variable and macroeconomic variables including long-term interest rate, household income, gross domestic product, exchange rate, and population were used as explanatory variables in order to analyze the increase in housing prices in Australia. The estimation results of this model showed that demographic changes have the highest explanatory power in the increase of housing prices in Australia, while the interest rate has a lower influence. This shows that the housing boom in Australia is mainly caused by the population growth and the economic financial situation, and interest rates do not have much effect on the boom and bust in the housing sector.

Agnello and Schuknecht (2009) investigated the housing boom and bust in industrialized countries. Using the random effects panel probit model, they estimated the probability of boom and bust for 18 industrialized countries during the period from 1980 to 2007. The housing market in 18 industrialized countries shows stable and major deviations from the long-term trend. There has been a strong correlation between the persistence and magnitude of boom periods and their subsequent recessions. The findings of this study indicate

that a number of policy variables, including short-term interest rates, changes in the amount of money and credits granted, as well

as the deregulation of the mortgage loan market, significantly affect the probability of booms and busts in the housing market. Overall, the model presented in this study has been quite successful in early identification of boom and bust.

Alessi and Detken (2009) investigated the performance of a set of financial and real variables as early warning indicators of asset price boom and bust cycles. They used data from OECD countries during the period 1970 to 2007. The method they used in this study to predict periods of asset price booms that have imposed relatively high costs on the economy was based on the signaling method. In this way, considering relative preferences, policy makers used a language function to rank indicators regarding false signals and missed crises. They concluded that the volume of liquidity performed the best in predicting the early crisis in the asset market. This variable provides useful information to policy makers to react to financial imbalances in time. Algieri (2013) investigated the key and effective factors in real housing prices in five countries of the Eurozone (Germany, France, Italy, Spain, the Netherlands, England, and the United States) in the period from 1970 to 2010. In this study, he used a multivariable unobservable factor model to model housing price fluctuations. This method makes it possible to extract that part of housing price changes that is not fully explained by the fundamental variables of the economy. The results of this study show that in addition to changes in real income, long-term interest rates, stock prices, and inflation, there is a hidden factor that plays a significant role in explaining real housing price fluctuations. This latent factor reflects factors such as structural changes in markets and changing preferences that are not directly observable. Nneji et al. (2013) investigated the effect of macroeconomic variables on the dynamics of the housing market in the United States in the period from 1960 to 2011 using the Three-Regime Markov Switching Model. This model has the advantage that it is possible to get a clearer

understanding of the factors affecting housing prices in the three regimes of "prosperity", "uniform state and recession". The

results of this study show that the sensitivity of the housing market to changes in economic variables depends on the state of the economy or the regime. According to the findings of this study, the reduction in the profit margin can be an effective factor in changing the market situation from the recession regime to other regimes.

## The basic roots of housing boom and bust

2008 was a landmark year in financial history. Two major financial institutions - Washington Mochal and Lehman Brothers – failed. Other major institutions such as AIG insurer, Federal Mortgage Association, National Mortgage (Fannie) and Federal Mortgage Corporation (Freddie) survived only because of government intervention. By autumn, the interbank loan and commercial paper markets could not function normally because some participants were thought to be at risk of failure. Malfunctioning of these markets increases the likelihood of short-term failures, possibly exacerbating the underperformance.

For good reason, there is concern that these financial events will harm the entire economy. Predicting the extent of wider damage requires understanding the causes of financial disruption.

All hypotheses have a common chain of logic. Something caused the huge housing boom between 2000-2006. The housing boom ended and required a seismic adjustment by financial institutions, investors, landlords and the housing industry. In some cases, that "something" is a matter of taste and technology, meaning that public policy cannot and should not prevent these events, but at most can influence their occurrence and, to some extent, change their magnitude. In other cases, events have resulted from or exacerbated inherent market weaknesses, suggesting that public policy may improve the situation.

Housing cycle theories differ in several ways. Some focus on changing tastes, technologies, and public policies during the boom years. Others focus on the expectations of market participants in

those years about future events. These events may be related to taste or technology. Among expectancy theories, some are "rational" and others have bubbles or "irrational exuberance." I explain how expectations about tastes differ from expectations about technologies in terms of how a housing bust might affect the future economy. A variety of measures show that real housing prices at their peak in 2006 were much higher than they were in 2000 or throughout much of the 1990s. The Office of Federal Housing Enterprise Oversight (OFHEO) index shows that prices grew 30% more than the Producer Price Index (PPI) for housing construction in 2000-2006. The Case-Shiller index shows a 90% increase in housing prices compared to the PPI during that period. In addition, real prices in 2000 were somewhat higher than prices in the 1990s. Housing construction activity followed a similar temporal pattern as that for prices. An increase until 2006 and then a sharp decline thereafter. Why did housing prices increase so much? Why did they fall down so fast?

The physical structure of housing has value because it helps people have shelter, privacy, and comfort. However, landlords and homeowners know that the flow of housing services is not produced by structures alone. Also, intermediary inputs of brokerage, management and banking services are important because they can match and maintain physical structures with the families who live in them and the investors who build them. As shown in the National Accounts, banks, estate agents and other companies outside the construction industry provide hundreds of billions of dollars of intermediary inputs to the housing industry each year. Housing residents pay rent to access housing services. As for the lessee-lessor relationship, the lease transaction is straightforward: the lessee writes a monthly check to the landlord. In the case of owner-occupied housing, the lease transaction is implicit but equally real in economic terms. The important point here is that the total rent

paid by the residents does not go to the investor in the structure, most of it goes to the suppliers of intermediate inputs. The purchase

price of a house (i.e., the self-build) is the expected present value of only the portion of the rent that remains after intermediate inputs. Demand for residential structures is a derived demand. It depends not only on the demand for housing services, but also on the costs of intermediate inputs. The rental cost of housing services is higher than the capital rent received by the owner of a residential structure by the amount of intermediate input costs.

It is easy to show that the housing boom is possible only because of the forecast- changes in the demand for housing services or in the costs of intermediate housing inputs.

Specifically, the consumer price index(CPI) for rental housing was only about four percent higher than the overall CPI during 2006-2002, compared to its value in 2000. Real housing rents were expected to remain four percent higher for the indefinite future, at most this would justify only four percent higher prices for structures. CPI may be incomplete for rental housing, but it seems clear that the housing boom was accompanied by a significant increase in housing prices relative to rental housing.

Moreover, median incomes compensated by housing rents were almost constant during these years. Therefore, homebuyers during the boom years and / or their lenders should anticipate that:

A. Rents will rise one day (or A series of new buyers will emerge one day expecting rents to rise).
B. An increasing portion of housing rents will go to the owners of residential structures instead of housing providers.

Some optimism about intermediate input costs was justified as applied information technology advanced rapidly throughout the 2000s. Much of the added value of banking and real estate is related to information. Bankers screen borrowers and value heterogeneous collateral. Real estate brokers match heterogeneous families with heterogeneous properties. Recent years have seen many advances in

data, notably the introduction of credit scores, which gave lenders new power to predict mortgage defaults and adjust interest rates

offered to potential borrowers. In 1990, credit scores were rare. By 1996, they were standard.

Lenders may also expect to use information technology to better monitor and collect loans, thereby implementing subprime lending programs. Real estate agents may also expect to benefit from technological progress. Virtual office websites and their technological descendants may significantly reduce the brokerage resources needed to match homes with the people they value most.

Perhaps the market participants hoped that the advancement of information technology would eventually reduce the deficit of housing rent that goes to banks and brokers, (to increase the deficit that reaches the owners of residential structures) and as a result, to support a higher equilibrium ratio of the price of structures to housing rent. In this view, these expected technological developments:

1. increased the expected long-term housing stock balance
2. Increase in housing prices and housing construction in the short term
3. Increase in short-term expenses on intermediate inputs
4. Reducing the balance of long-term expected housing service rent

The methodology of economics lays out a clear recipe for blaming today's financial crisis. First, alternative hypotheses are stated. Second, alternatives are compared based on empirical predictions. Third, empirical tests are conducted to measure the relative importance of alternative hypotheses. Unfortunately, October and November 2008 saw confident statements about the causes of the crisis, without a clear and public application of economic methodology.

## The basic roots of housing prosperity and stagnation

The housing boom and bust is behind the financial turmoil of 2008. Thus, in our third analysis of the financial crisis, Casey B. Mulligan, an economist at the University of Chicago, examines various hypotheses about its main causes. Were these changes in taste and technology? Public policy? The "excitement" of the investor? Mulligan describes some of the empirical tests that are needed to address this question and argues that at least part of the answer is already clear. Mulligan found that much of the housing boom was based on expectations about the future, not on demand, supply or subsidies during the boom. Mulligan says additional empirical tests, particularly of the total wealth effects of booms and busts, would help us make more informed guesses about whether expectations of booms are more based on changes in tastes or not. Changes in technology or vitality. But these experiments haven't been done, and so, Mulligan concludes, we can't yet predict future economic damage from housing booms and busts or formulate beneficial financial industry regulations.

## What is a housing boom and bust (and how does it affect real estate development)?

Countries around the world, including Australia, have put a lot of focus and energy into the housing market, and for good reason. Many property investors make huge profits from rising house prices. In fact, they often make as much profit from it as they do from their regular jobs.

But the thing about the housing market is that prices don't always go up. They have a tendency to fall over occasionally, which has serious consequences for many people. According to him, the

interest rate is an important factor that affects the housing price. As borrowing costs rise, more people need to sell their properties,

leading to a market crash. Needless to go that the ups and downs of the housing market have long-term effects on this industry.

## How the boom and bust cycles work

The alternating process of economic growth and decline can be explained through cycles of recession and prosperity. This is an inevitable process in any economic growth and for this reason, it is necessary to understand how these two cycles work and the factors that create them.

## Economic cycle

The economic cycle started in the 1970s and is still going on in the UK and many other countries. When Margaret Thatcher became Prime Minister of Britain in 1979, the inflation rate reached 25%. Just for comparison, in January 2020, the UK inflation rate was 1.8%.

At the time, Thatcher sought to reduce inflation by skyrocketing interest rates to 17% (170 times higher than the March 2020 rate). As a result, inflation decreased, but housing market prices suffered from the recession.

High interest rates mean that mortgage repayments will increase dramatically. Many people failed to follow this model. And as a result, it caused repossessions, forced sales, and properties whose prices were forced down. But a few years later, in 1982, prices started to rise again.

Now the reasons for the decrease in inflation are debatable. While some economists attribute it to the Prime Minister's politics, others say it is the result of a global economic trend. Regardless of the cause, the housing market has suffered significant consequences.

## Global financial crisis

The global financial crisis began when the mortgage market in the United States imploded in 2007. Although the Australian housing industry did not collapse like it did in the US or UK, but some consequences were still felt. There was a sudden drop in housing supply which led to more business failures across the Australian housing industry.

For example, in the UK, the crisis affected the entire market. There were stricter lending criteria, so fewer people could secure a mortgage to buy a home. This led to reduced demand for new housing, which affected many developers and made it more challenging to find credit to finance the project.

### Recession and prosperity of the housing market

The boom and bust of the housing market is not a new phenomenon. Quite the opposite, they are the fundamental cycles of any economic growth. They are so interdependent that prosperity would not be possible without occasional recessions.

Knowing the stages of each cycle and how it translates to the global housing market can help you make better decisions as a developer or investor.

## Housing economy in inflationary stagnation

The housing market, like any other market, goes through different periods with specific characteristics of each period. Inflationary stagnation of the housing market is one of these periods that usually happens every few years. Examining this period of the housing market is important because knowing it can be vital in decision-making for consumers and investors of the real estate market.

Since inflationary stagnation affects both the macro economy, investment and real housing consumers, in this article we will discuss the reasons for its creation, when and how it ends.

How long housing inflation will last depends on several factors. But in any case, this era can have different signals for each of the players in this market.

Personal housing consumers, builders, investors and real estate consultants are among the actors who should be familiar with the consequences of housing inflation stagnation. So, if you are one of these actors or you deal with the real estate market in any way, we suggest you stay with us until the end of this article.

## What is housing inflation?

As the name of this word suggests, inflationary stagnation is about two conditions. One is recession and the other is inflation. Therefore, we first define recession and inflation separately. A recession in the housing market means a decrease in the number of housing transactions. Just contrary to the idea of some people who mistakenly interpret it as a price reduction! In the following, we will explain why the recession in Iran does not reduce housing prices.

Inflation also means an increase in average prices. Inflation in the housing market has various reasons. Among these reasons, the following can be mentioned:

Increase in demand
Increase in the price of materials
Depreciation of the national currency
Increase in exchange rate

It is obvious that the increase in demand during the housing market boom will increase the price or, in other words, increase inflation. In the same way, for example, an increase in the dollar rate (without

seeing an increase in demand in the market) causes an increase in housing prices.

Nevertheless; Inflationary stagnation is a situation in which, on the one hand, the number of transactions in the housing market has decreased, and at the same time, prices are increasing for various reasons. That is, despite the stagnation in the housing market, the inflation that exists in the society has been transferred to this market as well.

## The concept of stagflation

Inflationary stagnation or Inflationary stability is the simultaneous existence of inflation and economic stagnation. Recession in the economic definition refers to two consecutive periods of negative growth in the economy of a country. "A period when there is a significant reduction in the four factors of production, income, employment and trade. » This period is usually at least 6 months to 1 year. In this way, recession can be considered as a reduction of real GDP growth. Inflation in terms of economics refers to a continuous increase in the general level of money production, monetary income or prices.

Inflation is generally considered to mean a disproportionate increase in the general price level. Inflation is a continuous and irregular process of increasing prices in the economy. Recession and inflation when they meet create special conditions in the economy.

Recession and inflation when they meet create special conditions in the economy. A situation in which neither stagnation nor inflation rules alone; It override only on the economy. Rather, in this situation, recession and inflation are intertwined and fuel "inflationary stagnation". Together, these two create a context in which unemployment is born from recession and from inflation, of

course, there is an increase in the collective price of goods. That is, in this situation, the economy has to deal with two problems at the

same time, which seems extremely difficult to overcome. Because the weapon that is used to reduce inflation (reduction of liquidity) on the other hand fuels stagnation. And the failure of the recession also leads to inflation through the injection of financial resources and liquidity, and if this cycle continues, the "inflationary recession" will become bigger and bigger.

## The causes of inflationary stagnation

Many experts consider economic factors to be the only cause of inflationary stagnation. The roots of inflationary stagnation lie in the structural characteristics of each economy, the degree of efficiency of monetary policies and financial policies, the government's budget structure, the degree of elasticity of investment with respect to interest rates, how forced substitution occurs, patterns of consumption, savings and investment, and the extent of the government's role in the economy. The factors that have been involved in the aggravation or emergence of this phenomenon in some countries, the same factors have in turn caused the confrontation and exit from this situation in other countries.

But there are also experts who consider political and social factors to fuel the discussion of inflationary stagnation. Experts believe that the reasons for stagnation and inflation are both economic and social- political. According to them, one of the main causes of inflationary stagnation is the increase in production costs. The increase in production cost has political reasons as well as economic reasons. Frequent changes of managers and officials and, on the other hand, decisions that are not made accurately are one of the main reasons for increasing production costs. Also, this causes wastage of funds and confusion of investors, and this issue clearly fuels the increase in production cost. The repeated structure of laws and the inefficiency of the economic structure and, on the other hand,

instability in the notifications and directives are other factors that increase the cost of production and lead to inflationary

stagnation. Prolongation of government projects is also one of the factors that greatly fuel the inflationary stagnation.

## Ways of treatment

Economists had more or less simple treatments for recession and inflation separately, based mainly on the theory of Keynes, an English economist. Stagnation and depression, caused by lack of demand, were considered effective, and its treatment required expansionary monetary and financial policies. The government increased construction spending, cut taxes, and increased effective demand by spending more than its revenues (conscious budget deficit policy). (The set of these measures, which are carried out through the government's budget, are called financial policies). At the same time, the central bank was implementing monetary expansion policy by increasing the volume of money and liquidity in circulation and reducing the interest rate. By increasing investment and consumption, it raises the total demand and mitigates the recession.

Inflation, although the reasons for its occurrence may be different and as a result make other supplementary measures necessary, but its treatment required contractionary monetary and financial policies anyway. Controlling the volume of liquidity, increasing interest rates, increasing taxes, controlling government spending and budget without deficit (or even with surplus) were among these measures that reduced inflation by reducing aggregate demand. In this way, the measures needed to fight inflation are exactly the opposite of the measures that should be used to fight recession.

Reforming the economic structure, meritocracy, increasing the productivity of production and industry are among the solutions to prevent the deepening of the inflationary recession. Of course, these solutions are all long-term and it should be known that resistance to

problems and not changing policies are the conditions for these factors to be effective.

## Inflationary stagnation in Iran

Iran's economic conditions are potentially ready to accept the phenomenon of inflationary stagnation. According to the structural characteristics of Iran's economy, continuous budget deficits and currency shocks resulting from oil income and the government's financial indiscipline and monetary expansion policy are among the most important factors of this phenomenon in the country.

The most important solutions to deal with the inflationary stagnation in Iran can be the financial discipline of the government through the correct adjustment of the budget and avoiding further continuation of the budget deficit, controlling and reducing the current costs of the devices, how to use oil dollars in a way that does not increase the monetary base and of course increase liquidity. Reforming the tax structure, reforming financial and monetary markets (avoiding expansionary monetary policies) and increasing investment in a way that leads to increased production, avoiding policies that have consequences such as rent-seeking and brokerage activities (such as the housing market), and increasing production and productivity of all production factors.

The Majlis Research Center has proposed solutions to combat inflationary stagnation, the most important of which are as follows:

A. "Avoid the expansion of closing the budget. » The revenues predicted in the budget should not be unrealistic or exaggerated and expenses, especially current expenses, should be reduced and eliminate the budget deficit. "Regarding the structure of Iran's economy, one of the main reasons for chronic inflation in the country is the continuation of the government's budget deficit; therefore, the government can avoid excessive increase in current

expenses by fully coordinating with financial and monetary policies and include the expenses in accordance with the

internal sources of income (taxes, non-oil exports, etc.) in the annual budget. And in addition, adhere to the approved budget and do not spend outside of its framework. In fact, the financial discipline of the government is one of the important factors in preventing the phenomenon of inflationary stagnation in Iran."

B. The tax structure of the country should be reformed. Currently, "transfers are not properly taxed, which increases the incentive of brokers and the demand for speculative goods (especially in the housing market). » Since the current tax system "drives the funds to the brokerage in the housing sector, investment in productive sectors is prevented and it prepares the ground for recession." "The reform of the tax structure should be in a way that not only does not reduce the motivation of the production sector, but also draws the funds of the brokerage and non-production sector towards production activities." "Closing the tax on commodity speculation and brokerage activities, which bring a lot of profit to its brokers, can have an important effect on the flow of capital to the productive sectors instead of the brokerage sector, especially housing, which has attracted capital in Iran And instead, it is possible to encourage capitalists and push them towards production with tax exemptions for production sectors.

C. Easing conditions for private sector activity. "Providing conditions for private sector activity, apart from the sources of income it creates for the government, increases production and economic prosperity." In fact, one of the best ways to fight inflationary stagnation is to increase investment in the country, which will lead to an increase in production and employment, income generation, and a reduction in the budget deficit, and in a cycle of cause and

effect, it will lead to a decrease in inflation and an increase in production.

## Hyperinflation

The term "stagflation" was first used during a period of inflation and unemployment in Britain. Britain has witnessed the expansion of inflation between the 70s and 80s. On November 17, 1965, Ian McLeod, the economic affairs spokesman of the Conservative Party of England, warned about the difficulty of the British economic situation in the General Assembly:
Currently we are in the worst situation in two respects. Not only inflation on the one hand or recession on the other, but the simultaneous existence of the two. In fact, we are in a kind of deflationary situation; And history in today's terms is actually made. Ian McLeod proposed the term stagflation again on July 7, 1970, and the media began to use it. For example, the Economist magazine on August 15, 1970 and the Newsweek newspaper on March 19, 1973 used the term deflation in their writings. In the collection of English practical articles, authors named Edward Nelson and Colin Nikoloff (2002) have investigated the causes and political mistakes related to the Great Inflation in Great Britain in
1970. According to the statements of these two, with the emergence of inflation in the 1960s and 1970s, policymakers were not able to recognize the main role of financial policy in controlling inflation. Instead, they tried to use non-monetary measures and policies to respond and react to economic crises. Policymakers also obtained inaccurate estimates of the degree of excess demand in the economy, which contributed significantly to the expansion of British inflation in the 1960s and 1970s. However, deflation was not limited to Britain. Economists have shown that record inflation was common among the seven major economies between 1973 and 1982. After the beginning of the reduction of the inflation rate in

1982, the focus of economists shifted from the causes of inflationary stagnation to the determining factors of productivity growth and the effect of real wages on the demand for labor.

## Monetarist and Keynesian perspectives after the war

### Keynesianism and early monetarism

Until the 60s, many economists of the Keynesian school denied the possibility of record inflation. Because past experiences have shown that high unemployment rates are usually related to low inflation and vice versa. (This relationship is called the Phillips curve). The main idea has been that the high demand for items and goods causes the price to rise and also encourages companies to hire more people for work. And in the same way, high employment increases demand. However, in the years 1970 and 1980 after the occurrence of inflationary stagnation, it is clear that the relationship between inflation and employment levels is not necessarily stable: That is, the Phillips curve can change. Macroeconomists have become more skeptical of Keynesian theories and the Keynesians themselves reconsidered their ideas about finding an explanation for stagflation. Explanation for changing the location of the Phillips curve was first proposed by one of the monetarist economists named Milton Friedman and also by Edmund Phelps. According to the statements of these two economists, when workers and companies expect more inflation, the Phillips curve shifts upward (that is, more inflation occurs at each level of unemployment). In particular, if inflation persists for several years, employees and companies will take this inflation into account during wage negotiations, and as a result, company costs and employee salaries will increase rapidly. Therefore, inflation also increases. Although this idea has been a severe criticism of the early Keynesian theory, it has been gradually accepted by the supporters of the Keynesian school and has been used in the Neo-Keynesian economic models.

### Neo-Keynesianism

Neo-Keynesian theory separates two types of inflation: Inflation caused by demand pressure (due to the change in the location of the

overall demand curve) and inflation caused by cost pressure (due to the change in the location of the overall supply curve). Inflationary stagnation in this view is caused by inflation caused by cost pressure. Cost-push inflation occurs when a force or condition causes production costs to rise. These conditions may arise due to government policies (such as taxes) or due to purely external factors such as the lack of natural resources or the occurrence of war. Contemporary Keynesian analyzes show that deflation can be easily understood by distinguishing between factors affecting aggregate demand and factors affecting aggregate supply. Although monetary and fiscal policy can be used to create an economy in the face of fluctuations in overall demand, such policies fail in dealing with fluctuations in overall supply. More specifically, an adverse shock to aggregate supply, such as an increase in the price of oil, can cause inflation to stagnate.

**Supply theory**

The theories of supply are based on the model of inflation caused by cost pressure (in Neo-Keynesian theory). In supply theories, inflationary stagnation occurs when the supply side faces a significant disruption in the market balance of supply and demand. Like when there is a sudden real or relative shortage of basic goods, natural resources, or natural capital needed to produce goods and services. Of course, other factors may also cause supply issues, for example, social and political conditions such as changes in politics, the occurrence of war, strict control of production by the government, etc. In this view, deflation occurs an unfortunate supply shock (such as a sudden increase in oil prices or a new tax) occurs which causes a subsequent jump in the cost of goods and services (mostly at the wholesale level). Technically, this causes a contraction or a negative shift in the overall supply curve of the economy.

In the resource scarcity scenario, stagflation occurs when economic growth is halted by a limited supply of raw materials. That is, when

the real or relative source of the main materials (such as fossil fuels (energy), minerals, agricultural land, timber, etc.) decreases or does not increase fast enough to respond to continuous and new demands. Resource scarcity can be an actual physical scarcity or a relative scarcity caused by factors such as improper taxation or monetary policy, which ultimately affects the cost or availability of raw materials. This is consistent with inflationary factors caused by cost pressures in Neo-Keynesian theory. Thus, after the occurrence of supply doubt, the economy first tries to maintain the momentum, that is, consumers and different businesses pay more to maintain their demand level. On the other hand, the central bank may aggravate this issue by increasing the money supply in order to deal with the economic recession. The increased money supply increases the demand for various goods and services, although demand usually declines during recessions.

In the Keynesian model, high costs lead to an increase in the supply of goods and services. However, during a supply shock (such as shortages, resource constraints, etc.), resources usually do not respond to these cost pressures; Therefore, inflation increased, productivity decreased, and as a result, inflationary stagnation occurs.

## Explaining the inflationary stagnation of the 70s

After the imposition of wage and cost controls by Richard Nixon on August 15, 1971, there was an initial wave of commodity cost shocks which the reason for them was the emergence of spiraling costs. The second biggest shock was the oil crisis in 1973, Just when OPEC limited the global supply of oil. These two events, combined with the general energy shortage in the 70s, caused a real or relative shortage of raw materials. Cost control leads to shortages at the point of purchase and ultimately, for example, causes multiple queues of consumers at gas stations and increases production costs in industries.

## Recent views

Until the mid-70s, none of the macroeconomic models (Keynesian, New Classical, and Monetarist) could explain stagflation. Later, an explanation is provided based on the effects of adverse supply shocks on inflation and returns. According to Blanchard (2009), these unfortunate events are one of the two components of inflationary stagnation. The second component is actually the ideas that Robert Lucas (inventor of the Lucas supply curve), Thomas Sargent, and Robert Barrow have expressed as "grossly inaccurate" and "fundamentally flawed" predictions (of Keynesian economics), Accordingly, the explanation of inflationary stagnation is left to "Contemporary students of the business cycle". In this discussion, Blanchard hypothesized that the recent rise in oil prices could usher in another period of deflation, although this has not happened yet.

## Neoclassical views

A purely neoclassical view of macroeconomics rejects the idea that "monetary policy can have real effects". According to the statements of neoclassical macroeconomic experts, real economic quantities such as real productivity, employment and unemployment are determined only by real factors. Nominal factors such as changes in money supply only affect nominal variables such as inflation. The neoclassical idea that nominal factors cannot have real effects is often called "monetary neutrality" or "classical dualism."

Since in the neo-classical view, real phenomena such as unemployment are basically unrelated to nominal phenomena such as inflation, a neoclassical economist can offer two separate explanations for recession and inflation. Neoclassical explanations of recession (slow growth and high unemployment) include government regulations or high unemployment benefits that

encourage people to be unemployed. Another neoclassical explanation for recession is based on real business cycle theory,

where any decline in labor productivity leads to a decline in work execution. The main neoclassical explanation of recession is a very simple one: A recession occurs when monetary authorities increase the money supply drastically.

In the neoclassical view, the real factors determining productivity and unemployment affect only the aggregate supply curve. The nominal factors that determine inflation also only affect the overall demand curve. A recession occurs when adverse changes in real factors shift the overall supply curve to the left while unwise monetary policies shift the demand curve to the right.

Therefore, the main explanation for stagflation under the classical economic view is only policy errors that affect both inflation and the labor market. A very clear argument in favor of the neoclassical explanation of inflationary stagnation has been presented by Keynes himself. In 1919, John Maynard Keynes described inflation and economic stagnation in Europe in his book "Economic Consequences of Peace". Keynes wrote:

It has been said that according to Lenin's speeches, the best way to destroy the capitalist system is to corrupt the currency. During a continuous inflationary process, the government can covertly and undetectably usurp. and confiscate a significant portion of the wealth of its citizens. With this method, the government has not only usurped the wealth of its citizens, but has done it deliberately and arbitrarily And while the process causes the citizens to become poor, in fact, a (certain) number of people become rich.

Lenin was definitely right. There is no better and surer tool than "currency corruption" that can overturn the current basis of society. This process uses all the invisible forces of economic law in favor of destruction, In such a way that even one person out of millions of people is not able to recognize it.

Keynes explicitly mentioned the relationship between money printing countries and inflation.

Inflationism of European currency systems has continued extraordinarily. Various warring states unable or too cowardly or

short-sighted to protect themselves against loans and taxes imposed on the resources they need, print money in order to balance. Keynes also stated how price control by the government causes disincentives and stops production.

The presumption of false value for currency, expressed by the force of law in the regulation and regulation of prices, it contains the seeds of ultimate economic corruption and soon destroys the sources of ultimate supply. If a person has to exchange the fruits of his labor for "something" And then he cannot use the sale of that "thing" to buy his necessities, then, based on the experience he has gained, he will no longer exchange his products And keeps them with him, or as a favor, he gives his products to his friends and neighbors, or he no longer bothers to produce products .A forced system to exchange goods for things that have no real relative value not only reduces production, Rather, it ultimately causes waste and inefficiency of transactions.

Keynes explained in detail the relationship between inflation and the deficit of the German government. In Germany, the total cost of the empire, federal states and regions in 1919-1920 was estimated at 25 billion Marks. About 10 billion of which are not covered by existing taxes. This amount has been approximated without considering the payment of damages and compensations. In Russia, Hungary, Poland or Austria, such a thing as a budget cannot exist at all.

Therefore, the threat of inflation described above is not simply a result of war that will be resolved after peace is established, rather, it is a continuous phenomenon whose end cannot be seen.

## Keynesian in the short term, classical in the long term

Although most economists believe that changes in the money supply can have real effects in the short term, But neo-classical and

Neo-Keynesian economists agree that changes in money supply do not have any long-term effects. Hence, even economists who

consider themselves to be of the Neo-Keynesian school usually believe that money is neutral in the long term. In other words, although the neo-classical and Neo-Keynesian models are often considered as mutually exclusive and competing perspectives, but these two views are also considered as two appropriate descriptions for different time horizons. In many of today's textbooks, if prices are sticky, then the Neo-Keynesian model is considered as a suitable description for the economy in the short term. Instead, if prices have enough time to fully adjust, then the neoclassical model is considered to be an appropriate description of the economy in the long term.

Hence, although today's economists often attribute short-term periods of inflationary stagnation (only a few years) to changes in supply, but such an issue is dismissed as a description of a very long inflationary stagnation. In fact, longer inflationary stagnation is described as an effect of wrong government policies: regulation and extreme adjustment of the production market and the labor market have led to long-term inflationary stagnation and on the other hand, excessive growth of money supply also causes long-term inflation.

## Other views

### Differential accumulation

Political economists such as Jonathan Nitzan and Shimshan Beechler have described inflationary stagnation as part of a theory called differential accumulation. In the theory of differential accumulation, instead of seeking to increase maximum utility and investment, companies seek to raise these two categories (utility and investment) more than the average level. According to this theory, periods of combination and acquisitions fluctuate with periods of inflationary stagnation. When combination and acquisition are no longer politically possible and practical, (governments are limited

by antitrust laws). Instead of competition, inflationary stagnation is used as an alternative solution to achieve greater relative utility.

With the increase of combination and acquisitions, the power to implement inflationary stagnation also increases.
Inflation stagnation appears as a social crisis, such as the period of the oil crisis in the 70s and 2007 to 2010. However, inflation in a recession does not have the same effect on all companies. Dominant firms can raise their prices faster than competing firms. Although no firm appears to benefit from deflation, dominant prominent companies improve their position with relative greater profitability and investment. Inflationary stagnation has nothing to do with real supply shocks, but is caused by social crises that point to a supply crisis. Stagflation is almost a phenomenon of the 20th and 21st centuries, which is mainly used by coalition, dollar weapon - oil dollar, which achieves monetary benefits by creating or abusing the crises in the Middle East.

**The theory of stagflation caused by demand pressure**

In the theory of inflationary stagnation caused by demand pressure, the idea is that stagflation can be explicitly the result of monetary shocks, without taking into account simultaneous supply shocks or negative changes in potential economic efficiency. Theory caused by demand pressure describes a scenario in which stagflation can occur following a period of monetary policy implementation (which causes inflation). This theory was first proposed in 1999 at the John F. Kennedy Public School belonging to Harvard University.

**Supply side theory**

Supply-side or pro-supply economics has been proposed as a response to the United States' inflationary stagnation in the 70s. This theory largely links inflation to the cessation of the Bretton Woods system in 1971 and the absence of a specific pricing reference in subsequent monetary policies (Keynesianism and monetarism). Supply-side

economists claim that stagflation is the result of inflation caused by an increase in real tax rates.

**Austrian Faculty of Economics**

Proponents of the Austrian school believe that by creating new money, old creators and receivers can receive more profits than new receivers. The creation of money does not mean the creation of wealth, but simply allows the recipients of old money to provide resources, goods, and services to new recipients in exchange for a higher price. Since the real producers of wealth are usually the new receivers, an increase in the money supply weakens wealth creation and reduces the rate of economic growth. Austrian economist named Frank Shostak said about this:

> An increase in the growth rate of money supply along with a slowdown in the growth rate of manufactured goods means an increase in the price inflation rate. (Remember that the price is the money that is paid for a unit of goods). However, the issue here is a very rapid increase in price inflation and a decrease in the rate of growth in production. This actually means stagflation, i.e. an increase in price inflation and a decrease in real economic growth. In general belief, stagflation is completely fake؛ Therefore, it seems that the
>
> phenomenon of inflation stagnation is a normal result of weak and incorrect monetary policy. This issue is compatible with the theory of Phelps and Friedman (PF). However, contrary to the PF theory, we believe that stagflation cannot be caused by the fact that, in the short term, people have been fooled by the central bank. Inflationary stagnation is a natural result of monetary pumping (indiscriminate extraction of money), which has reduced economic growth and, at the same time, increased the price of goods and services.

**Jane Jacobs and the impact of cities on deflation**

In 1984, the activist and journalist named Jane Jacobs suggested that the main reason for the failure of macroeconomic theories in

describing the inflationary stagnation was their focus on the country instead of the cities as a prominent unit for economic analysis. He stated that the key to avoiding inflationary stagnation for a country is to focus on the development of cities that can produce substitute products for imports (import substitute cities), because these cities cause the economy to strengthen and weaken at different times and in general, they provide stability and stability of the country and prevent nationwide inflationary stagnation. According to Jacobs, import substitution cities are actually cities that develop the economy by creating a balance between the production of their own products and huge imports, this means that these cities can respond to changes in the economic cycles of supply and demand with great flexibility over time. Although Jacobs' statements were praised, but scholars and urban planning researchers have criticized Jacobs and blamed him for not comparing his ideas with the ideas of great theorists (such as Adam Smith and Karl Marx), especially when he does not have proper research documents. Despite these problems and issues, Jacobs's research has been widely read by the public and has influenced many decision makers.

**Reactions**

Stagnation undermines support for the Keynesian consensus.
Federal Reserve Chairman Paul Volcker from 1979 to 1983 cleverly raised interest rates in a so-called non-inflationary scenario. After US prime interest rates rose to double digits, inflation also decreased. These interest rates have been the highest long-term primary interest rates ever seen in modern capital markets. Volcker is often cited as having at least stopped inflation in the recession, even though the US economy was mired in recession. Around 1983, the growth (economy) started to improve and recover. Both fiscal stimulus and money supply growth have served as policy at this time. The presence of a five-six-year jump in unemployment during

Volcker's non-inflationary scenario shows that Volcker was confident in the self-correction of unemployment and believed that

unemployment would return to its normal rate in a reasonable period.

## When will the housing market suffer from inflationary stagnation?

Inflationary stagnation occurs in two situations. Before we discuss these two situations, we will mention the different periods of the housing market. The periods of the housing market are:

Recession period
Transition period from recession to prosperity
boom period
Transition period from prosperity to recession

Each of these periods has its own characteristics. As an actor in this market, you must show a special behavior in every period. In the article "Guide to the best time to buy property", we have mentioned these periods and the best time to buy property based on each period, which we suggest you read. Because it also helps you understand housing inflation. In general, we see inflationary stagnation in the housing market in two cases. These conditions include:

The end of the boom period
After entering the recession period

### The first mode; The end of the boom period

One of the situations of inflationary stagnation; is the end of the boom period of the housing market. At this time, the price jump is such that the market no longer has the elasticity to increase the price. In this situation, people no longer have the power to buy housing, but the sellers do not understand this.

The seller is still expecting this growth because he has seen the price increase in the previous weeks and months. Therefore, despite

the fact that the buyer no longer has the purchasing power, we continue to see the growth of prices. This is the situation that causes inflationary stagnation.

**The second state; After entering the recession period**

But the other state of inflationary stagnation is when the market enters a period of recession. Therefore, the number of transactions experiences a noticeable decrease. In this situation, the seller doesn't want to lower the price of his property. There are many reasons for this. One of the most important reasons is the stickiness of prices and the high value of housing in the Iranian household budget.

Housing in Iran is the main capital of most families. When the seller sees that the customer cannot buy his property at this price, instead of reducing the price, he stops selling the property and waits until the buyer's ability increases.

This makes us not see a price decrease despite the observed recession (decrease in the number of transactions) in the market. This phenomenon is called housing price stickiness.

So far, we have found that for reasons including price stickiness, the seller is not willing to reduce the price of his property despite the recession. In this situation, the inflation that exists in the society for various reasons will also affect the housing market. In this situation, we are witnessing both stagnation and general inflation of the society being transferred to the housing market. In this way, during the recession, we can see inflationary stagnation in the housing market.

**How long will housing inflation continue?**

As we mentioned, the conditions of inflationary stagnation are created under the influence of two factors: stagnation and inflation. Considering Iran's economic conditions, we cannot expect to

eliminate inflation. Therefore, the recession continues until the ability of the public to buy housing increases.

Now the question is, under what conditions does this happen? Several years of experience and the study of Iran's economy and the housing market in recent decades by the housing investment group of engineer Alireza Amoui have shown that this usually happens due to the increase in the limitation of housing facilities.

When the mortgage limitation increases, the demand for lower area properties that are less expensive increases. Usually, people go to such units who are either lessee or are at the beginning of their life and are just looking to buy a residential property, even if it is of a small size.

On the other hand, the owners of units with low size are looking for units with higher size when they sell their property. This wave continues in this way until it leads to the formation of a new period of prosperity.

Of course, there may be other reasons for entering the boom period, But usually, the issue of increasing the limitation of bank facilities has been the most important reason for it in the past decades.

**What is the impact of housing inflation on real consumers?**

First of all, we must emphasize that the period of recession in housing market in some ways, is not in favor of the country's economy. Because the housing market is a propellant market. It means that many businesses depend on it. Therefore, its entry into recession is equal to the decline of many businesses.

But the period of recession (which usually lasts for several years) is considered a good opportunity for people who are looking for

personal use of housing (that is, they do not intend to invest). But how is this buying opportunity created? To answer this question, we

must first refer to the two concepts of the real price and the nominal price of housing.

Nominal housing price: the amount of housing price change in a certain period of time.

Real housing price: the amount of housing price change in proportion to the inflation rate in a certain period of time.

We will explain these two concepts with an example.

## What is the nominal price and the real price of housing?

Suppose the average price of each square meter of housing at the beginning of the year is 30 million tomans. At the end of the year, this price reaches 33 million Tomans. This is the nominal price of housing. This means that the nominal price of housing has experienced a 10% growth.

Now let's assume that the average inflation of the society was 30% in the same period of time. In this case, the real price of housing is calculated in proportion to the inflation of the whole society and the increase in wages (which is proportional to the inflation rate). Therefore, you can see that the real price of housing has grown 20% less than the general inflation of the society. So, in practice, although the nominal price of housing has increased, but its real price has decreased.

Therefore, some people can use this opportunity to buy property. Because they experience a wage increase higher than the housing price growth. So they can reach the price of housing with savings and investment and think about buying housing. Otherwise, with the arrival of the boom period, we will see a sudden increase in prices. Therefore, if you are a personal consumer, see the recession in the housing market as a good opportunity. During this period, gather all

your energy for saving and investing so that you can become a home owner before the boom period arrives.

## What is the impact of housing inflation on investment in this market?

If you know the details of the housing market, you can profit even in the worst conditions. If you have read the previous parts of this article well, you must have noticed that during the recession period, there are few customers in the market, but the prices are increasing. Obviously, these conditions are not very suitable for investment.

Because when the demand in the market is low, you will face difficulty in selling the property you have invested in. In practice, it does not matter if you intend to invest by buying and selling property or by construction; In any case, the lack of customers in the market reduces the attractiveness of investment for you.

Because in these cases, so-called capital sedimentation increases. In the period of inflationary stagnation, this matter hurts the investment a lot. On the other hand, at this time, we do not see price growth as much as during the boom period. However, there are still 3 ways you can make a profit at this time:

Construction of units with high demand
Finding so-called occasions
Participation in construction

In the following, we briefly explain each of these situations.

### Construction of units with high demand:

One way is, if you are a builder, to build units for which there is still a demand in the market. For example, studies show that units with low area in Tehran are still in demand even during the recession. Therefore, construction in areas where there is a demand for these units can be cost-effective.

Note that the most demanded units are not the same in all parts of Iran. For example, surveys show that in a city like Yazd, the demand for areas below 100 square meters is generally low.

Therefore, if you intend to build, make sure to do the necessary checks before entering the market.

**Investing occasion units:**

The next mode is buying used units. In this era, there may be people who sell their units at a lower price than the market due to the urgent need for money. Finding such properties can earn you good profits.

Be careful that any property that is below the price is not necessarily a bargain. Rather, the general condition of the property should be attractive to the few customers who exist in the market during the period of inflation.

**Participation in construction:**

Another way to earn profit during the period of inflationary stagnation is to participate in construction. Note that a significant part of the investment cost in construction is related to the land. When you participate in the construction, you do not pay for the land. Because the land belongs to another person. Therefore, a part of your money, which should have been paid for the purchase of land without participation, does not enter the capital sleep by participating in the construction. You build and eventually you get your profit.

To become a professional in all topics in construction, you can use the "Participation in Construction Training" product.

**Housing inflation stagnation in Europe:**

The European real estate market has seen strong growth for several years. In fact, since the beginning of 2016, house prices in the European Union have increased by an average of 4.6% compared to the previous year which is better than the growth of wages and GDP. This upward trend has spread across countries as well as large

cities. This article examines the factors underlying this trend and whether it has any risks or not.

Housing prices have increased significantly in all European countries except Italy. and now, in most cases, it has exceeded the pre-crisis level, while some countries' prices are growing well above the EU average. This is the case in Hungary and Portugal, where prices have risen by more than 9% on average since 2016.

## What factors are behind the simultaneous growth of housing prices?

To some extent, the increase in housing prices in Europe is due to the simultaneous economic recovery. The European recovery started in 2013 and gradually stabilized, especially from 2016 onwards when growth picked up in most member states. This upward trend has been accompanied by a significant increase in employment. So that the average unemployment rate of the European Union has decreased from 11% at the beginning of 2013 to 6.3% in the third quarter of 2019. A positive evolution of the labor market, along with a favorable economic outlook for higher household disposable income and greater consumer confidence. Similarly, the strengthening and restructuring of the European banking sector also helped to improve the availability of credit. All this has increased the demand for housing, this in turn boosted prices in several European housing markets. On the other hand, the accommodative financial conditions environment facilitated by central banks' monetary stimulus in major advanced economies has also contributed to the simultaneous increase in housing prices. First, because it has led to an overall reduction in financing costs to historically low levels. 2. For example, in the Eurozone, the average interest rate on mortgage loans was 2.0 percent in the third quarter of 2019, compared to 5 percent in the years before the financial crisis.

Second, because the low interest rate environment for bond yields and the return of some products has reduced financial savings

and encouraged demand for property as an investment asset. This suggests that international and institutional investors have intensified their involvement in some real estate markets (including residential markets) in the past few years in search of greater profitability. The simultaneous growth of housing prices in the European Union is explained by economic and financial reasons, including economic recovery and favorable financial conditions, increasing demand for housing and property investment. In this sense, an International Monetary Fund study shows that the tendency of housing prices in different markets to move in tandem and in one direction (especially in advanced economies) becomes stronger due to financial factors (more favorable financial conditions and greater financial integration). Specifically, these factors now explain 30 percent of house price growth in many advanced economies, which is much higher than the 10% described in 1971. Both the upward movement of real estate prices and the phenomenon of synchronizing housing markets are more evident in the main cities of advanced economies. In the case of Europe, this is particularly evident when comparing house prices in the largest cities with average house prices in the rest of the cities in a given country. Higher property price growth in major cities compared to the national average indicates a generalized trend toward greater urbanization which is an important driver of demand for residential property in cities, especially in dynamic locations that attract more talent. On the other hand, this phenomenon also responds to the fact that big cities by themselves tend to attract more investment. For example, in real estate, cities tend to be the most criticized submarkets with the least uncertain outlook. Also, cities are attractive to investors for other reasons, such as their excellent location or because they are popular tourist destinations. In addition, in some specific areas, specific factors such as legal and tax systems can play an important role in attracting foreign investment.

These factors, which can be called "traditional", have recently been supplemented by some of the aspects we mentioned earlier such as the consistent global financial conditions and a greater number of international investors. These factors are particularly relevant in large cities that are more open to international capital flows due to their integration with global financial markets or due to their attractiveness to investors seeking greater profitability.

### Are there any risks?

Recent housing price developments in several European regions can be a cause for concern. To determine whether housing prices are overvalued or not, these prices can be compared with other indicators of the purchasing power of domestic demand. In this sense, the first step to assess whether housing prices are too high or whether tensions are evident in the market is to place prices in relation to other indicators that show the purchasing capacity of domestic demand.

## Affordable housing

Overall, the main house price indicators show no signs of widespread tension in European property markets, with the exception of the Netherlands, Austria, Denmark and Belgium. In short, most European countries show no obvious signs of overvaluation of property prices compared to domestic demand. However, some countries such as the Netherlands, Austria, Denmark and Belgium may be at risk. If housing prices continue to grow at the same rate or even faster, because their prices are already at their highest. The case of Sweden and the UK deserves special attention because after several years of booming house prices and some overheating in the sector, it is now due to factors such as political uncertainty, affordability issues and fewer tax exempts when buying a home, growth has decreased.

## Affordability of housing in big European cities

In big cities there are clear signs of decoupling house prices from local incomes and the affordability ratio is particularly high in several European metropolises such as London, Paris, Milan and Munich.

In other cases, prices appear to be slightly higher than those justified by domestic demand, such as Vienna, Oporto and Barcelona (article "Wider gap between Spanish housing prices".In this report, the section analyzes housing price trends and affordability ratios. in Barcelona and Madrid) .As we mentioned earlier, this is due to several factors, such as the influence of foreign buyers and global and institutional investors, who generally have greater purchasing power than the average local population. Such dynamics mean that housing market trends at the local level (compared to other parts of the country as well as other countries) must be paid close attention to.

## Proportion of big cities

Big city affordability ratios are narrowing, reflecting the decoupling of housing prices and local income. This ratio is especially high in London, Paris, Milan and Munich. In short, with the exception of some special cases, there are no clear signs of overvaluation in European real estate markets. Also, the financial situation of European households is relatively comfortable. However, in big cities, there is a certain separation between housing prices and local people's income, partly due to the greater weight of foreign demand. Considering the current economic stagnation in many European countries, the greater simultaneity of housing prices among countries and cities raises doubts about the consequences of the final correction of prices. Because closer linkages (exposure of local markets to global financial and economic conditions) may transmit or amplify financial and macroeconomic shocks. In this regard, due

to the growing importance of foreign demand and the greater vulnerability of the housing market to the financial and economic cycles of the world, the capacity of local authorities to manage imbalances in the real estate market (through national policies, such as macro-prudence, or locally) can now be more limited than in the past.

# Chapter Four

## Housing market in the world economy

Housing is an essential part of the economy, but it has also been a source of vulnerabilities and crises. Hence, while the recent recovery in global housing markets is a welcome development, we must guard against another unsustainable boom.

Detecting overvaluation in housing markets is still more of an art than a science. Broad measures, such as housing price-to-rent ratios, provide the first license. But careful analysis and judgment is required to make a call on overvaluation. The set of policy tools to manage the housing boom is still under construction. Various tools have been used, and evidence suggests short-term success. But more analysis and sharing of experiences about what works and what doesn't is needed. Such conferences are useful to add to our knowledge.

On these three points, let me start with the role of the housing sector. Food, clothing, housing: these are traditionally considered as basic human needs. Therefore, the housing sector fulfills an essential need. Of course, housing is also an important part of investment. And in many countries, housing is the largest component of wealth. For example, in the United States, real estate

accounts for approximately one-third of all assets held by the nonfinancial private sector. Most households tend to hold wealth in the form of their homes rather than financial assets. For example, in France, less than a quarter of households own shares, but nearly 60% of them own houses.

Housing also plays other key roles. For example, mortgage loan markets are important in the transmission of monetary policy. Adequate housing can also facilitate labor mobility within an economy and help economies adjust to adverse shocks. In short, a well-performing housing sector is critical to the overall health of the economy. And as economies develop, we expect a corresponding deepening and growth of the housing market. Despite its importance, the housing sector has not received enough attention from macroeconomists. As Ed Limmer once pointed out, the leading textbooks in this field often did not mention the housing sector at all. Of course, things have changed since the Great Depression. The bursting of the US real estate bubble was followed by the deepest global recession since the Great Depression. It reminds people of the collateral damage that can result from housing collapse.

In fact, throughout history, housing booms and busts have often been detrimental to financial stability and the real economy. Many major episodes of banking problems have been accompanied by boom and bust cycles in property prices. International Monetary Fund research shows that nearly 50 systemic banking crises in recent decades, more than two-thirds have been associated with boom-and-bust patterns in housing prices. The cost of solving the housing crisis can be very high - For example, in the case of Ireland, government financial assistance to banks from the housing collapse increased 40% of the country's GDP. Unlike housing cycles, boom and bust cycles in stock prices are much less likely to trigger systemic

banking crises. Even when housing bust doesn't have much of an impact on financial stability, it can affect the real

economy. Research shows that due to the decrease in housing prices, the probability of recession is higher in Organization for Economic Co-operation and Development (OECD) countries. Such recessions are also much deeper than normal recessions and create more unemployment. In short, there is ample evidence that housing cycles can be a threat to financial and macroeconomic stability. Therefore, it is very important to pay attention to the current developments of the housing market to avoid going through another boom and bust cycle.

So where is the housing market today? Housing prices and residential investment declined in many countries at the onset of the Great Recession. Since then, there has been a comeback. In general, housing prices are increasing again: The International Monetary Fund's global house price index has increased for the past seven consecutive seasons. Over the past year, 33 of the 51 countries in our index showed an increase in housing prices. In some cases, housing prices are recovering from a sharp correction during the Great Recession. In other cases, housing prices have continued to rise during the Great Recession with only minor adjustments. Have these developments brought housing prices closer or further away from economic fundamentals? One of the first common attempts to answer this question is to look at long-term valuation ratios. The theory claims that housing prices, rents and incomes should move together in the long term. If house prices and rents move out of line, people will switch between buying and renting, eventually matching the two together. Similarly, in the long term, house prices cannot move away from people's ability to buy them—that is, their incomes. Therefore, the ratios of housing prices to rents and incomes can be an initial check on the mismatch of housing prices with economic fundamentals.

Among OECD countries, these ratios remain well above historical averages for most countries. This is true for example for Australia, Belgium, Canada, Norway and Sweden. This evidence provides a

broad indication of housing market valuation. But overvaluation cannot be assessed on this evidence alone. While long-term relationships generally act as an anchor, house prices often move away from them sharply and for long periods. The movement of demand leads to an increase in housing prices, especially in situations where housing supply cannot be adjusted quickly due to geographic or other constraints. Therefore, judgments about housing valuation require additional information such as credit growth, household debt, lender characteristics, and financing methods.

Of all these potential indicators of boom-and-bust cycle risk, monitoring credit growth is the most important, The International Monetary Fund (IMF) research suggests. We've found that there is one distinctive feature of real estate booms that go "bad": This feature is the coincidence between the housing boom and the rapid increase in leverage and exposure of households and financial intermediaries. During the global financial crisis, almost all of the countries that had "twin booms" in the real estate and credit markets, 21 of the 23 countries we analyzed, finally, they suffered from a financial crisis or a sharp decline in GDP growth relative to the country.

Therefore, IMF staff are increasingly paying attention to credit growth, along with several other special features of the housing market in the country. In recent months, IMF staff have provided detailed judgments on housing markets for Australia, Israel and Canada, all countries with high overall valuation metrics. We have also provided assessments for many emerging market economies in Asia and Latin America, where mortgage credit and house price growth remain strong, and housing prices in urban areas are showing signs of overheating. In some cases, this closer look indicates a much lower valuation than the house price to income ratio and the house price to rent ratio. One example is Belgium, where the International Monetary Fund concluded that despite high

valuation ratios, the risks of a sharp correction in real estate prices appear to be contained. These country-specific factors for housing cycles suggest that policy responses cannot be "one size fits all."

With that, let me move on to the third and final part of my speech: the role of policies in curbing the housing boom. First, let me note that this is part of a broader debate about the appropriate role of monetary policy in the "new normal." While many aspects of this role are still under active debate, the point is clear: monetary policy should be more concerned with financial stability, and thus the housing market than before. The era of "benign neglect" of booming housing prices is over.

That said, the regulation of the housing sector includes a complex set of policies. Eminent economist Avinash Dixit suggested that we use the acronyms MiP, MaP, MoP to refer to the set of policies. MiP stands for micro-precautionary policies, which, of course, aim to ensure the flexibility of individual financial institutions. Such policies are necessary for a healthy financial system, but they may not be sufficient. Sometimes, the right actions at the level of individual institutions can destabilize the whole system. Hence we need not only MiP but also MaP, that is, macro prudential policies with the aim of increasing the flexibility of the system as a whole.

The main macro prudential tools used to curb the housing boom are restrictions on loan-to-value (LTV) and debt-to-income (DTI) ratios and capital requirements. Limits on LTV ratios limit the size of a mortgage loan relative to the value of a property and basically it imposes a minimum down payment. Limits on DTI ratios limit mortgage loan sizes to a fixed multiple of the household income. The hope is that in this way the unbearable increase in household debt will be curbed. Such restrictions have long been used in some economies. For example, Hong Kong special administrative

region(SAR) has implemented an LTV limit since the early 1990s, and in 1994 it introduced a Department of Trade and Industry (DTI)

limit. In Korea, LTV limits were introduced in 2002 and DTI limits in 2005.

Evidence so far shows that these measures are somewhat effective in reducing housing prices and credit growth in the short term. They can break the financial accelerator mechanism that otherwise leads to a two-way positive feedback between the credit boom and the housing boom. But precise adjustment of these measures is required. Macro prudential measures should take into account the ability of market participants to circumvent certain leverage limits. In some countries, such as Canada, LTV limits usefully distinguish between occupied mortgages against the investor.

Another macro prudential tool is the imposition of strict capital requirements for lending to a specific sector such as real estate. This forces banks to hold more capital against these loans and prevents heavy exposure to the sector. In many advanced economies, such as Ireland and Norway, the risk weight of capital adequacy increased in mortgage loans with high LTV ratios. Capital requirements are also used in a number of emerging markets such as Estonia, Peru and Thailand. Evidence suggests that while this tool increases flexibility from additional buffers, its ability to contain credit growth varies. Some activity by the International Monetary Fund shows that higher capital requirements for certain categories of mortgage loans are partially successful in curbing house price growth in countries such as Bulgaria, Croatia, Estonia and Ukraine.

There are several reasons why higher capital requirements may be less effective in curbing credit growth. First, when banks maintain capital much higher than regulatory minimums, lenders may not need to change in response to increased risk weights. This often happens during housing booms, when policymakers hope the tool will be most effective. Second, when lenders compete fiercely for market

share, they may internalize higher required capital costs rather than applying higher lending rates.

Macro prudential instruments may also not be effective in targeting housing booms that result from housing shortages or increases in housing demand that result from external cash flows that bypass domestic credit intermediation. In such cases, other tools are needed. For example, stamp duty has been imposed to reduce rising housing prices in Hong Kong SAR and Singapore. Evidence shows that this financial instrument reduced the demand of foreigners who were outside the regulatory scope of LTV and DTI. In other cases, high housing prices can reflect supply bottlenecks, and hence the effectiveness of demand- focused tools may be limited. In such cases, inconsistencies should be addressed by measures to increase housing supply.

Along with micro-policies and macro-prudence, we need MoP: monetary policy. It is often said that the use of policy interest rates is a tool to curb housing price boom, but as I mentioned earlier, the housing boom has often coincided with a general boom in private credit. This shows that monetary policy can be an important tool in many cases in supporting macro prudential policies. However, it is true that in many relevant cases now, policy interest rates should remain low to support economic recovery.

The housing boom in countries and time periods has different characteristics. What is common is that when a recession comes, it often damages financial stability and the real economy. The tools to curb the housing boom are still being developed. Evidence about their effectiveness is just being collected. The interaction of different policy instruments can be complex. But all this should not be an excuse for inaction. Intertwined use of multiple instruments may overcome the shortcomings of any single policy instrument. When it comes to policy choices, we need to move from " benign neglect " to an "all of the above" approach.

Only by maintaining an open dialogue on these issues we will gain a fuller understanding of how to curb the housing boom in policy.

International coordination is also essential, because housing boom in one country can be fueled by credit market developments abroad. The International Monetary Fund intends to do its part. As I mentioned, housing market evaluation is becoming a regular feature of our country's reports. We also report on housing markets through our flagship publications, the Global Economic Outlook and the Global Financial Stability Report, as well as through other reports to our Executive Board. We are working with other organizations to improve housing statistics. Next week, we're launching a new web page that will house all of this work.

## Real estate bubble

A real estate bubble is a type of economic bubble that occurs periodically in the local or global real estate markets and is usually followed by a land boom. A land boom is a rapid increase in market prices of real estate such as housing until they reach unsustainable levels and then decline. This period, at the time of the accident, is also known as the floor. The question of whether real estate bubbles are detectable and preventable and whether real estate bubbles are more widespread or not. Its importance is answered differently by schools of economic thought, detailed below.

Bubbles in the housing market are more important than stock market bubbles. Historically, stock price recessions occur on average every 13 years, last 2.5 years, and result in a % 4 decline in GDP. House price recessions occur less frequently, but last almost twice as long and leads to twice as much production loss. A recent experimental laboratory study also shows that compared to financial markets, real estate markets have longer boom and bust periods. Prices fall more slowly because the real estate market has less liquidity.

The financial crisis of 2007-2008 was related to the bursting of real estate bubbles that had started in various countries during the 2000s.

Like all types of economic bubbles, there is disagreement as to whether or not a real estate bubble can be identified or predicted. Speculative bubbles, continuous deviations and systematic and increasing real prices are one of their fundamental values. Real estate bubbles are difficult to identify even when they occur due to the difficulty of discerning real estate's intrinsic value. Like other medium- and long-term economic trends, it is difficult to accurately predict future bubbles.

In real estate, fundamental factors can be derived from rental yields (where real estate is considered similar to stocks and other financial assets) or estimated based on the regression of actual prices on a set of demand and / or supply variables. British magazine The Economist argues that housing market indicators can be used to identify real estate bubbles.

Land Value Tax (LVT) could be introduced to prevent speculation in the field. Real estate bubbles direct savings into rent-seeking activities rather than other investments. A land value tax removes the financial incentives to hold unused lands just to raise prices and making more land available for productive uses. At sufficiently high levels, land value taxes lower real estate prices by eliminating land rents which otherwise would be "capital" at the price of property. It also encourages landowners to sell or transfer land they don't use, therefore, it prevents dealers from hoarding unused land.

A housing bubble (or housing price bubble) is one of several types of asset price bubbles that occur periodically in the market. The main concept of the housing bubble is like other asset bubbles, which consists of two main phases. First, there is a period when housing prices rise dramatically, driven more and more by speculation. In the second stage, housing prices will decline sharply. Housing bubbles are among the asset bubbles that have the greatest

impact on the real , because these bubbles have credit fuel economy, because a large number of households participate in it

and not just investors, and because the wealth effect from housing tends to be larger than other types of financial assets.

### Definition of bubble

Most research papers on housing bubbles use standard definitions of asset prices. There are many definitions of bubbles. Most of them are normative definitions, Like the definitions of Joseph Stieglitz, who try to describe bubbles as periods that involve speculation and guess, or they argue that bubbles involve prices that cannot be justified by fundamental factors.

Stieglitz definition is: “The basic intuition is simple: If the reason the price is high today is only because investors believe the sale price will be high tomorrow - when the "fundamental" factors do not seem to justify such a price. - so there is a bubble." Lind (2009) argued that we need a new definition of housing price bubbles, an “anti- Stieglitz” one. His point is that traditional definitions such as Stieglitz (1990), where bubbles are argued to be caused by fundamentals not setting prices, are problematic. This is primarily because the concept of "fundamentals" is vague, but also because these kinds of nominal definitions usually do not refer to a part of a bubble as a whole - both rising and falling in price. Lind claims that the solution is to define a bubble by focusing only on the particular development of prices and not on why prices developed in a particular way. The general definition of a bubble would simply be: "If the (real) price of an asset first rises dramatically over a period of months or years and then falls sharply almost immediately, a bubble exists."

## Identification of housing bubbles

### Housing bubble versus high prices in the housing market

It can be said that overpricing is a necessary but insufficient indicator for the existence of a bubble. Overpricing is more broadly

defined than bubble. An asset can be overpriced without a bubble, but you can't have a (positive) bubble without being overpriced. An overprice or underprice may simply be defined as a deviation from the equilibrium price.

Mayer (2011) examines housing price bubbles and finds that there are basically three approaches that researchers use when examining housing price equilibria.

First, there is the finance-based method, where the price of the house is equal to the future rents with a discount. This follows the same logic when doing stock valuation. The stock price is equal to the discounted sum of all future dividends. The idea is that equity value is equal to discounted dividends. The ratio of rent and user cost of housing are the methods that are included in this method.

The second approach is to compare the costs of building new houses with the actual prices of today's houses. Many manufacturing cost methods have their basis in supply and demand curve theory. If demand is low, this leads to lower house prices and fewer new homes being built.

Glazer and Giorko (2005) pointed out that the housing market is characterized by a twisted supply curve which is highly elastic when prices are at or above construction costs. Otherwise, the supply curve is highly inelastic. Housing can be built quickly, but because housing is a durable commodity, old housing does not disappear quickly. Therefore, housing prices in slow or negative demand growth markets are constrained by construction costs. Price construction cost ratio and price construction cost ratio are methods that are included in this method.

A recent approach by Mayer (2011) is to use the combination of housing affordability to derive an equilibrium model. House price is

often compared with income (income is used as a proxy variable for affordability). If house prices are too high, households cannot afford

the same level of housing services (affordability). Symmetrically, when housing prices are low, households may pay a higher level of housing services. Price-income ratio, price-wage ratio, price-household income ratio are examples of this method. There is also a set of affordability metrics and indicators that look at the development of interest payments to income or mortgage cost to income. In addition to using housing price balance based on economic criteria, statistical techniques can also be used to identify long-term price trends.

Schiller bubble checklist (2010):

1. A sharp increase in the price of an asset such as real estate or stocks
2. Great public excitement about the said increase
3. An accompanying media insanity
4. Stories of people who make a lot of money and cause envy among people who don't
5. Growing interest in the property class among the general public
6. "New Age" theories to justify the unprecedented increase in prices
7. Reduction of lending standards

## Index groups of housing bubble Lind (2009)

1. Payment of interest related to income for housing buyers
    1. Payment of nominal interest has increased in relation to income

       2. If historical interest rate levels were applied, nominal interest payments would increase relative to income.

       3. Real interest payments have increased relative to income.

       4. If historical interest rate levels were to apply, real interest payments would increase relative to income.

**2.** To provide a place to live.

1. The easier it is to increase supply, the more likely the price of a part of the bubble will increase.

3. Buyers' expectations about prices

1. Buyers expect prices to continue to rise or stabilize at a level much higher than historical trends.

2. Buyers believe that even in a moderate perspective (three to five years) investing in real estate is almost risk-free.

4. Risk-taking and impatient buyers

1. People enter ownership at a younger age or at a higher quality level.

2. Buyers tend to choose riskier financing alternatives than before.

3. Buyers depreciate less than before

5. Behavior of the bank

6. As prices rise, banks are raising or at least lowering loan-to-value ratios for buyers in the housing market.

1. Banks become more liberal when judging the creditworthiness of households.

7. Speculative behavior

1. A higher share of home buyers than usual are planning a quick sale

## Other indicators of the housing bubble

Housing prices vs. vacant house rates, a large number of vacant jobs will have downward pressure on prices, because in this case; supply exceeds demand. Alternately, the opposite: employment rate.

The real price of housing against the population. If there is a net flow of lessees, we can expect housing costs to increase.

House prices versus GDP can be used if income information is not available, because changes in GDP and income can be expected to be correlated.

The loan-to-value ratio (LTV) is a good indicator of the risk involved for the lender as well as for the borrower, the higher this ratio, the greater the risk.

Debt service ratio or debt coverage ratio (DSCR), it means the ratio of funds available to pay interest and principal, it is considered a good indicator for the level of risk (Joshi, 2006).

The ratio between loan and disposable income should not change over time. A rise higher than the long-term average indicates that the market may be overvalued.

Housing prices versus interest rates. If interest rates rise, owning a piece of property will be more expensive and to compensate for higher user fees, we can expect the price to decline.

High growth and progressive housing prices.

## Macroeconomic importance

In mainstream economics, economic bubbles, especially real estate bubbles, are not major concerns. In some schools of heterodox economics, on the contrary, real estate bubbles are considered to be of vital importance and the main cause of financial crises and subsequent economic crises.

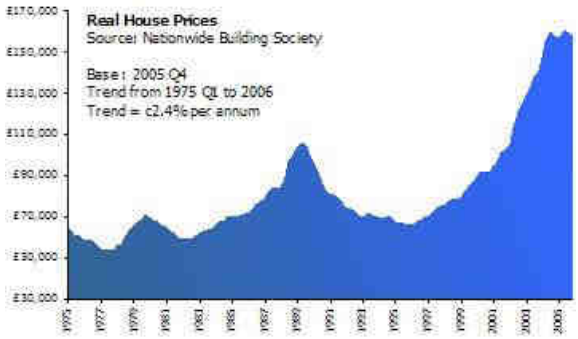
The prevailing economic view is that housing price increases lead to little or no wealth effect, that is, it does not affect the consumption behavior of households that are not looking for sales.

House prices tend to offset the higher implicit rental costs of ownership. An increase in housing prices can have a negative effect

on consumption through an increase in rent inflation and a greater tendency to save due to the expected increase in rent.

In some schools of heterodox economics, especially Austrian economics and post-Keynesian economics, real estate bubbles are seen as examples of credit bubbles, because property owners usually use borrowed money to buy property. It is then argued that these cause financial and therefore economic crises. This is first discussed empirically - multiple real estate bubbles have been accompanied by economic recessions and it is argued that there is a cause and effect relationship between them.

## Housing market indicators




**UK house prices between 1975 and 2006, adjusted for inflation**

Inflation-adjusted U.S. home prices, Population, Building costs, and Bond yields (1890–2005)
Home-Price Index
100
193
Building-Cost Index
100
161
Population
63 million
294 million
Yield on 10-Year Treasury Bond
3.42%
4.07%
1890
1920
1940
1960
1980
2005

In an effort to spot bubbles before they burst, economists have developed a number of financial ratios and economic indicators that can be used to assess the fair value of homes in an area. By comparing current levels with previous levels that were unstable in the past (for example, it has led to a fall or at least accompanied by it), it can be assumed that whether a real estate market is experiencing a bubble or not. The indicators describe two intertwined aspects of the housing bubble: A valuation component and a debt (or leverage) component. The valuation component measures how expensive homes are relative to what most people can afford and the debt component shows how households are in debt to buy a house or their interest (and also how much exposure banks have to lending to them). A basic summary of progress in housing indicators for US cities is provided by Business Week.

## Affordable housing measures

The price-to-income ratio is the basic measure of housing affordability in a given area. In general, the ratio of the average of house price to the average of disposable family income, which is expressed as a percentage or year of income. Sometimes it is collected separately for first-time buyers and is called attainable. This ratio which is applied to individuals, is a fundamental component of mortgage loan decisions. According to a back-of-the-envelope calculation by Goldman Sachs, comparing the average house price with the average household income shows that US housing was overvalued by more than %10 in 2005.

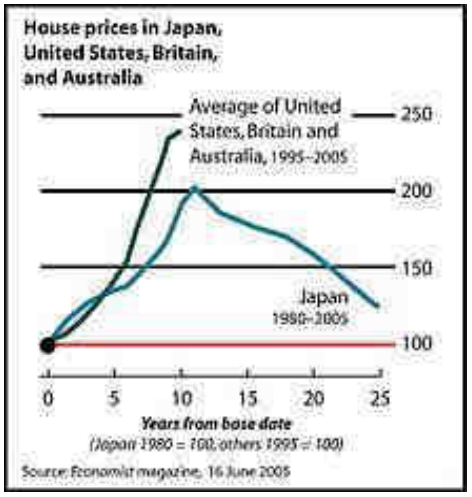
The deposit-to-income ratio is the minimum down payment required for a typical mortgage, expressed in terms of income per month or year. This is especially important for first-time buyers who are available without home equity. If the

down payment becomes too high, those buyers may find themselves out of the market. For example, since 2004 this

ratio was equal to one year's income in England. Another type is what the US National Association of Realtors calls the "Housing Affordability Index" in its publications. (The accuracy of the NAR method has been questioned by some analysts because it does not take inflation into account.) However, other analysts consider this measure appropriate because both income and housing cost data are expressed in a form that includes inflation, and all things being equal, the index implicitly includes inflation.

The affordability index measures the ratio of the actual monthly mortgage cost to the household income. This is most commonly used in the UK, where almost all mortgages are variable and linked to bank lending rates. It provides a much more realistic measure of a household's ability to buy house than crude oil price-to-income. However, it is more difficult to calculate, and hence, the price-to-earnings ratio is still mostly used by analysts. In recent years, lending practices have eased, allowing many times more than income to be borrowed.

The median coefficient measures the ratio of the average housing price to the average annual household income. This measurement has historically been around 0. 3 or less, but in recent years, it has increased dramatically, especially in markets with severe public policy restrictions on land and development.




**Inflation-adjusted house prices in Japan (1980–2005) compared with house price increases in the United States, the United Kingdom, and Australia (1995–2005)**

## Housing debt measures

The housing debt-to-income ratio or debt-to-service ratio is the ratio of mortgage payments to disposable income. When this ratio gets too high, households become increasingly dependent on rising property values to pay off their debt. A variant of this index measures the total costs of home ownership, including mortgage payments, utilities and property taxes, as a percentage of a typical household's monthly income before taxes.

Housing debt to owner equity ratio(which should not be confused with the ratio of companies' debt to owner equity), which is also called loan to value, the ratio of mortgage debt to asset value is fundamental. It measures financial leverage. This ratio increases when the homeowner get a second mortgage or home equity loan using the accumulated equity

as collateral. A ratio greater than 1 indicates negative owner equity.

## Housing ownership and rental measures

Bubbles can be determined when the increase in housing prices is greater than the increase in rents. In the United States, rents rose steadily at about 3% per year between 1984 and 2013. While between 1997 and 2002, housing prices increased by 6% per year. From 2011 to the third quarter of 2013, housing prices have increased by %83.5 and rents by% 2.

The ownership ratio is the ratio of households that own their homes versus renting. It tends to increase steadily with income. Also, governments often implement measures such as tax reductions or financing subsidies to encourage and facilitate home ownership. If the increase in ownership is not supported by rising incomes, it could mean that buyers take advantage of low interest rates (which should eventually rise again as the economy warms) or that mortgages are more liberally granted to borrowers with poor credit. Thus, high ownership ratios combined with rising subprime lending rates may indicate higher levels of debt associated with the bubble.

The price-to-earnings ratio, or P / E ratio, is a common measure used to assess the relative value of stocks. To calculate the P / E ratio for a rental home, divide the home's price by its potential income, or net income, which is the annual market rent of the home minus fees, which include maintenance and property taxes. This formula is: a home's price-to-income ratio provides a direct comparison to the P / E ratio used to analyze other uses of the money tied up in a home. Compare this ratio with the simpler but more accurate price-to-rent ratio below.

Price-to-rent ratio, the average cost of ownership divided by the rental income received (in case of purchase to rent) or estimated rent (in case of purchase to stay): the latter is often

measured using "Equivalent Owner Rent" numbers published by the Bureau of Labor Statistics. It can be considered as the real estate equivalent of the price to earnings ratio of stocks. In other words, it measures the amount a buyer pays for each dollar of rental income received (or dollar saved in rental costs). Rents, just like corporate and personal incomes, are generally related to supply and demand fundamentals. It is rarely seen an unsustainable "rental bubble" or "income bubble" for that matter. So a rapid rise in housing prices combined with a flat rental market could signal the start of a bubble. The US price-to-rent ratio was 18% higher than its long-term average in October 2004. Gross rental yield is a measure used in the UK, total annual gross rent divided by house price and expressed as a percentage:

This is the reciprocal ratio of housing price to rent. net rental income subtracts the landlord's fees (and sometimes estimated rent gaps) from the gross rent before making the above calculations. This is the reciprocal of the house's P / E ratio.

Since the rent is received during the year and not at its end, both the gross and net rental yields calculated by the above are somewhat lower than the actual rental yield obtained considering the monthly nature of the rental payments.

Occupancy rate (opposite: vacancy rate) is the number of occupied residential units divided by the total number of units in a given area (in commercial real estate, usually expressed in terms of area (i.e., square meters, hectares, etc.) for different building grades.) A low occupancy rate means the market is oversupplied due to construction and speculative buying. In this context, supply and demand

numbers can be misleading: sales demand exceeds supply, but rental demand is not like that.

## Housing price indicators

Housing price criteria are also used to identify housing bubbles. These indicators are known as housing price indicators (HPI). A series of HPI indices for the United States are the Case-Shiller indices, which were developed by American economists Carl Case, Robert J. Shiller, and Alan Weiss. As measured by the Case-Shiller index, the United States experienced a housing bubble that peaked in the second quarter of.

### List of real estate bubbles

#### From the end of the Cold War to the Great Recession of 2008

The collapse of the Japanese asset price bubble since 1990 has been very damaging to the Japanese economy. The 2005 crash affected Shanghai, China's largest city.

Since 2007, real estate bubbles have existed in the recent past or are widely believed to still exist in many parts of the world. including Argentina, New Zealand, Ireland, Spain, Lebanon, Poland, and Croatia. Then, US Federal Reserve Chairman Alan Greenspan said in mid-2005 that "there is at least some 'price floor ' (in the US housing market). It is hard not to see that there are many local bubbles. The Economist magazine, writing at the same time, went further and said: "The global increase in house prices is the biggest bubble in history".

In France, economist Jacques Frigate publishes a study every year called "Evolution of the price, value and number of property sales in France since the 19th century", which shows high price increases since 2001. However, the existence of a real estate bubble in France has been debated by economists.

Real estate bubbles are always followed by sharp declines in prices (also known as housing price crash) that can cause many

homeowners to have more mortgages than their homes are worth. 1.11 million residential properties, or%1.23 of all US homes, had a negative net worth on December 31, 2010.

Commercial property values in the UK remain around %35 below their peak in mid-2007. As a result, banks are less willing to hold large amounts of backed debts, which is likely to be a key issue affecting the global recovery in the short term.

Until 2006, most of the world was thought to be in a bubble, although this hypothesis was discussed and disputed based on the observation of similar patterns in the real estate markets of many countries. Such patterns include patterns of overvaluation and consequent over borrowing based on those overvaluations.

## Housing market bubble in different countries

Fluctuations of economic variables in various sectors, especially the fluctuation of the asset market in most countries, is a common phenomenon, so that during business cycles, housing prices sometimes reach a peak and sometimes reach a low point. The growing importance of the financial assets market in the economy of a country makes it necessary to constantly review this market. One of the important components of the capital and asset markets is the housing market. Today, housing has become a concept beyond a shelter and its role in the economy of countries is very important. In the history of financial markets, the housing market has always faced speculative fluctuations, and these price fluctuations are part of the nature of the market but sometimes these fluctuations are out of the normal form and give way to unbridled ascents and sudden falls and inflict irreparable blows on the housing market, but the important issue here is the abnormal quantity and quality of fluctuations in this market. In general, the price fluctuations of assets and housing usually consist of two main parts: one is the conventional part or

fundamental price changes that are affected by the primary macroeconomic variables or conventional supply and

demand changes and the other is the unusual part or false changes in prices, which is known as speculative bubble in economics. Due to the rapid increase in housing prices in the world, some analysts believe that it is necessary to control the unusual fluctuations in housing prices due to its widespread effects. Monetary policies consider economic goals such as economic growth, establishing full employment and controlling inflation through changing and controlling the volume of money and changing the level and structure of interest rates or other conditions for granting credit and financial facilities. Therefore, the purpose of this study is to investigate the housing price bubble.

## The bubble theory of housing prices

Housing prices can be divided into fundamental and non-fundamental components, which are bubbles. Diagnosing the existence of price bubbles in different markets is one of the new topics in the field of macroeconomics. In recent decades, bubbles are a well-known phenomenon in the housing market, but there is no consensus about the mechanism and factors affecting its occurrence. Economists have provided different definitions of the price bubble, the most common definition is that the housing market price bubble occurs when the housing price increase is not justified by the fundamental concepts of macroeconomics and the important factors of the housing market. In general, the housing market bubble can be defined as a sharp and impulsive increase in the price of housing, due to which the price increase is expected in the future and causes more financial and economic losses. Usually, in examining the theoretical foundations and definition of the bubble, most scientists focus on several important and key concepts, such as: rapid increase in prices, unrealistic expectations of price increases in the future, price deviation from the fundamental value of the housing

market, fundamental factors of the housing market, fundamental value of the price level that the forces of supply and

demand for housing in the market create or extreme movements in prices after the collapse of the bubble. Very simply, a bubble in the price of an asset is formed when the price of this asset is currently high just because people think that the price will be higher in the future.

The formation of a housing price bubble has two conditions, first, that the basic and fundamental factors of housing supply and demand have no justification for it, second, if brokers expect the future price to be higher than the current price.

Bubbles are always expanding until a certain time so that they eventually become very large, but there is a possibility of bubble collapse at any time. The rapid growth of the housing price and its reaching the limits that considering the income of the households and the ratio of the housing price to the rent, the possibility of its continuation or further increase is unimaginable. The most important criterion for detecting the formation of a bubble is the housing price.

With the collapse of the bubble, the downward trend of housing prices begins and the price quickly reaches the levels where the net worth of many home owners becomes negative because the mortgage loans received for the purchase of housing exceed the value of the housing. The most important factors that create housing are the continuation of very low interest rates for a long time, the growth of "high-risk mortgage loans" due to excessive facilities in granting these loans, and the creation of speculation atmosphere in the housing market.

In fact, when the price of a product or service differs from its expected price in the future, the issue of a bubble is raised. In order to accurately define the bubble, the concept of fundamental price is defined as follows: Expected benefit or utility, resulting from keeping a product or service, is the basis for determining the basic price.

## Methods of discovering the housing price bubble

In general, there are two ways to detect land price bubbles through economic data. In the first method, the bubble is based on the important indicators for the bubble test ‘price-to-rent ratio index and price-to-income index. The second method also refers to econometric studies.

Unit root and co-accumulation tests are used to detect bubbles. The unit root test is performed regarding the price-to-rent ratio. And if the assumption of unit root is not rejected, the existence of a price bubble in the housing market can be realized. The cointegration test is another way to confirm the presence of bubbles in housing price data. If there is a bubble in the housing price, the accumulation between the logarithm of the price and the logarithm of rent or between the logarithm of the ratio of price to rent and its yield cannot be confirmed. Inside the country, tests to detect the presence of bubbles have been conducted using unit root and co- accumulation, and the results have proven the existence of a bubble in Iran's housing market.

In econometric studies, different definitions are used for the housing price bubble. So that in some price residual studies and other studies, the P / E index and in some cases the deviation of P / E from its average during business cycles or the fluctuation of this index are used to measure the bubble.

The P / E method was first used by Shiller (1981) using the variance limit test. This approach is a common method in the stock market and housing market to discover the bubble. The only difference is that in the stock market, this relationship is the ratio of the price to the cash income of the stock, and in the housing market, P / E is the price to the annual rent.

The price-to-rent ratio method in housing economics theories is based on the principle that; the price of an asset such as housing has an almost constant and logical relationship with its rental price. If

the price-to-rent ratio is significantly higher than the long-term average, it can be said that a price bubble has been created.
In this method, in this method, it is believed that if housing prices get higher than rents, the growth of the price-to-rent ratio indicates the existence of a price bubble compared to rent, which shows greater sensitivity to positive and negative shocks.

## The relationship between housing price and rent

If the housing generates an income flow equivalent to Rials during the year, in the exploitation period, how much is the investor willing to pay for the purchase of a residential unit. For the answer, you can use the net present value method to derive the housing price. If by buying a house, the income flow will be created during the year.
The relationship between price and rent has several important applications in the housing economy: first, one of the two important conditions shows the balance in the housing market and the second condition is the equality of existing housing depreciation and housing investment. The second establishes the connection between the housing market as an asset and other markets. Using the recent relationship and other options that exist for investment, people decide which one to choose. Third, to show the constituent elements of the cost of housing use, which is a suitable and common approach in modeling and characterizing the effect of economic policies on housing prices. In recent years, the basic relationship of housing price bubble has been used in various studies.

### The transmission mechanism of the effect of monetary policy and assets

Economists have investigated the influence channels of monetary policy on consumption and investment decisions and asset prices

and have distinguished between two main sources, one is the money channel and the other is the credit channel. Monetary perspective

refers to the traditional concept of monetary mechanism on real activity based on MIS-LM model, so that changes in money supply and interest rates directly affect the level of consumption and investment.

**Money channel**

The first channel is the traditional monetary perspective, which is called the direct monetary channel, in such a way that an increase in the money supply will lead to an excess of money supply and an increase in total demand. Various channels that have considered a role for the mutual relationship between these two variables can be classified into three groups: the first group includes classical money demand motives. The money demand channel of the second group are the mechanisms that assign a special role to liquidity in the direction of asset financing, which are called the asset increase channel. In the last group, due to the collateral value of real estate, the relationship between money and credit is investigated. (credit channel). Money demand channel according to Friedman's theory (1988), the relationship between asset prices and money demand can be classified in the form of wealth effect, substitution effect, and transaction effect. The wealth effect shows that a change in the level of wealth changes the demand for all assets, including money. The substitution effect shows that the change in the relative attractiveness of different assets changes the structure of the individual asset portfolio. In particular, the expected increase in property prices, assuming other factors are constant, makes investment more attractive than holding money and causes the asset portfolio to be transferred to housing or stocks and the desire to hold money decreases. While these two effects (wealth and succession) depend on the set of individual assets portfolio. The transaction effect shows that the buying and selling of assets is reflected

in impulses and increases the need for money for transaction incentives. This effect is probably due to the fact

that the number of transactions in the housing market usually increases during the boom period.

When property prices are stagnant because owners tend to downsize, it delays property sales. They feel that the decline in property prices is a temporary phenomenon and has led to a slowdown in the real estate business. They will re-enter the asset market only by increasing the price.

Channel to increase the assets of this channel explain the potential effects of monetary policy and monetary collections on the property market. The expansionary monetary policy makes the market face a lot of liquidity and causes an increase in asset prices. Especially due to the difference in the price elasticity of supply, it will lead to an increase in the real price of the asset. It means a stronger increase in asset prices compared to consumer goods. One view of recent booms is that the emergence of low-cost producers outside the market and in developing countries can prevent firms from raising consumer prices in response to liquidity shocks but the supply of assets in the market is limited. As a result, the asset price is more sensitive to the increase in total demand, which was created as a result of the expansionary monetary policy, than the price of consumer goods and services. Therefore, monetary policy can improve financing conditions and thus increase demand and asset borrowing. A special case for this effect can be when economic activists have a monetary illusion.

**Credit channel**

The second channel refers to the relationship between property and money from the collateral value of household assets. Due to distribution of asymmetric information in the credit market, the ability of financial intermediaries to borrow depends on the value of their collateral. E. Cavillo (2005) highlights the role of housing as collateral in the transfer mechanism. The credit

channel shows that the asset boom has affected the household's borrowing capacity, which also plays a decisive role in the loan

and therefore the supply of assets. Asset and loan prices may reinforce each other. A price increase has increases the household's borrowing capacity and at the same time strengthens the supply of credits that lead to a further increase in asset prices. In this channel, a group of effective mechanisms operate through interest rates, which are divided into cost of capital, substitution effect and income effect. Based on the cost of capital channel, if the cost of borrowing is higher than the rate of return on capital, the decrease in the real interest rate will affect the investment decision. Interest rate reduction will encourage demand from first-time buyers and possibly relocation.

The price increase caused by the increase in demand through different channels affects the economic activities. The first channel is Tobin's theory, which encourages investment in housing, especially when the ratio of housing price to cost is greater than one, investment in housing will be profitable. The sensitivity of newly built housing supply to price changes depends on factors such as the degree of competitiveness of the construction industry, construction laws and regulations, rules and urban land use, the existence of skilled labor and the financial behavior of the new residential unit. Second: changes in building prices cause changes in rental income in the rental housing market. Developing regulations in the rental housing market will increase rents. An increase in rental income for lessors neutralizes the negative effect of a decrease in income from lessees. Assuming lower marginal desire to consume rental income from lessors, it is expected that the overall income effect will be negative. The effect size of this channel will depend on the structure of the rental housing, the performance of the rental housing market and the reactions of different people (institutions, lessees and owners). Third, the increase in housing prices will probably have a positive effect on the saving

behavior of households and their planning to purchase housing, which will strengthen the financial resources of housing credit institutions. The amount and size of the effect of this channel will be a function of the ratio of savings to housing value. The fourth channel of price changes works through influencing on real activities, which is related to the concept of balance sheet or the balance of resources and expenses. So that households get more loans for investment and consumption by pledging their property.

The fifth channel is the effect of housing wealth on non-housing expenses. The increase in price causes some people to profit and the other group to face losses. Under some conditions, the positive wealth effect of people who face profit dominates the negative effect of the income of the aggrieved group and the buyer of new housing. However, the increase in housing prices will lead to wealth increase and non-housing expenses. Finally, the increase in housing prices has an expectation effect and a confidence effect. However, the boom in the housing market can be caused by optimistic expectations about its future income. Since current consumption depends on the desire of households, consumers can increase lifetime and future consumption.

## Studies conducted on the housing bubble

The history of the bubble issue goes back to Shiller's study in 1981 about the stock market. And after that, the scope of studies expanded to the theory of the formation of price bubbles in other assets.

Dreger and Wolters (2009), in a study, examine whether the increase in liquidity in recent years has caused the formation of price bubbles in the asset market.

Cao and Liang (2007) investigate and analyze the effect of monetary policy on real estate prices using the ARDL method and seasonal data of China during the period of 2006-1999.

Eschker (2005) examines the existence of a housing price bubble in the city of Humboldt, USA. In this study, it uses the price-to- P / E rent ratio method to detect the bubble during the period of 1989-2004. The results show that during the three years from January 2002 to December 2004, housing prices increased by 72% and during this period the P / E increased by three units. While this ratio has been constant from 1989 to 2002. As a result, it can be concluded that there is a price bubble in the Humboldt housing market.

Shen (2005) examines the existence of a price bubble in the housing market of Beijing and Shanghai.

Chen and Patel (1998) investigated some determinants of housing prices in Taiwan in the period of 1993-1971. In this study, the price of housing is a function of the real interest rate, the real stock price index, the cost of building housing, and the per capita income of the household. The results show that all variables have a good ability to explain housing price fluctuations. The results show that all variables have a good ability to explain housing price fluctuations.

Housing market control will not be possible only by applying monetary policies. And the use of complementary financial policies, especially the reform of financial policies, will be inevitable.

In general, timely intervention of central banks in limiting the scope of financial crises is more effective than subsequent measures to deal with it and will bring better results.

Euro zone real estate bubble

Housing prices in the Eurozone rose magnificently during the Corvid pandemic. For example, in Prague, a person needs 3. 17 years of salary to buy a 70 square meter apartment.

Canadian real estate bubble

The Canadian real estate bubble refers to the significant increase in Canadian real estate prices from 2002 to the present (with short periods of price declines in 2008 and 2017), which some observers have called a real estate bubble. From 2003 to 2018, Canada witnessed an increase in housing and property prices up to %337 in some cities. By 2018, when Canada burst its last housing bubble, home ownership costs were higher than they were in the 1990s. Bloomberg Economics has ranked Canada as the second largest housing bubble across OECD countries in 2019 and 2021.

Starting in February 2022, prices began to decline rapidly as the bank of Canada raised interest rates and it's on track to drop detached prices to $40 in the Greater Toronto Area by September 2022.

## Background factors

The last housing downturn in Canada occurred in the early 1990s recession at a time when Canada was facing low commodity prices, debt and a large national deficit that weakened the value of the Canadian dollar, and there was the possibility of Quebec independence, stagnation in Canada's main trading partner and the United States of America. Median home prices (adjusted for inflation) fell continuously in Toronto from 1989 to 1996. The decline of Quebec separatism after the 1995 referendum and the commodity boom of the 2000s (due to increased demand from the United States

and China) significantly strengthened personal finances among the middle and upper classes in Canada. During this

time, significant village-to-city migration and migration to Canada put pressure on housing prices in major cities.

It is speculated that the handover of Hong Kong in 1997, in particular, caused many wealthy Hong Kongers to immigrate to Canada (at least temporarily), obtain second citizenships and purchase safe assets from the Chinese Communist authorities. This was later imitated by many mainland Chinese who became wealthy during China's economic boom and sought overseas investment opportunities.

This influx of foreign investment was fueled by local speculative activity facilitated by persistently low interest rates. When a pattern of rising prices was established, consumers interpreted this as an evidence that the real estate market had become an excellent option for long-term and stable investments. The debate is about which group of foreign or domestic investors have a greater role in increasing prices. The belief that there was a limited supply of homes in the real estate market quickly brought new consumers into the market. In addition, owning a home is ideal for many young people in Canada. These social pressures, along with increased opportunities for profit, were the driving forces behind the growth of the market, which left first-time home buyers struggling to find affordable housing.

In March 2017, the cost of owning a home in the Greater Toronto Area had increased by 33% in just one year which was 19% of the growth in the previous year. For two months, even the value of semi-detached houses had exceeded one million Canadian dollars. Suburban areas have also seen a large price increase. Homes that haven't been upgraded in decades are selling for more than the asking price. Condominium prices were steadily increasing every year, even though many units were being built.

**Trying to reduce growth in 2017**

In response to these trends, the Canadian government decided to try to slow down the growth of the real estate market and gradually

lower prices to help first home buyers shrink rather than burst the bubble. In April 2017, Canadian federal Finance Minister Bill Moreno met with Ontario Finance Minister Charles Souza and Toronto Mayor John Tory in an attempt to find a solution. This led to a tax on foreign buyers and a tax on speculation. In addition, Ontario's fair housing program imposed stricter rent controls. Buyers without insurance now have to go through a stress test to see if they can handle the interest rate or not. These small solutions can cause a slight decrease in housing prices in 2017. Ontario has created a fair housing plan, consist of 16 measures to help combat the growth of the housing market and make housing more affordable. These 16 actions are summarized below:

1. Tax on non-resident speculation.
2. Rent is allowed only at the announced rates in the province's annual rent increase guidelines
3. Create standardized rental agreements that further protect lessees and insure landlords.
4. Create a program to balance the value of surplus land assets
5. Impose a tax on vacant properties.
6. Taxes to ensure that new apartment complexes are similar to existing complex properties.
7. Introduce a 5-year plan to facilitate the construction of more rental apartments.
8. Make it easier to use property taxes to create more development opportunity.
9. Creating a housing supply team to help discovering and removing barriers to housing development.
10. Take action to combat tax avoidance practices.
11. Re-evaluate the rules regarding client representation in real estate transactions.
12. Establishing a housing group to advise the government on the state of the housing market.

13. More education for consumers about their real estate rates.

14. Establish more detailed reporting requirements for real estate sales
15. Improving the reliability of elevators in Ontario buildings.
16. Update the growth plan for the Great Golden Horseshoe.

These measures have failed to reduce the real estate bubble.

**2018 and 2019**

Canada's price-to-rent ratio exceeded US housing bubble levels in 2006. The ratio of private sector debt to GDP also increased to 218% in 2018 which caused the International Monetary Fund to warn that this country is very vulnerable to economic shocks. Swiss bank UBS Global Real Estate Bubble Index ranked Toronto and Vancouver as the third and fourth most at-risk cities for housing bubble crises. In Alberta, prices remained high despite the economic recession and high unemployment.

Owning a home accounts for approximately 50% of the average family's monthly budget. The Canadian Housing and Mortgage Loan Corporation cited overbuilding as the main source of housing bubble risk in this country. The amount of household debt in Canada exceeded the national GDP.

In April 2019, the central Bank of Canada released a report titled »isolation of the driving factors of housing resale«, which stated that Canada's housing market is »currently in uncharted territory.«

While in this report, the word "bubble" is not used to describe the current state of the housing market, rather than using the term "forte", the report says that the rapid rise in prices in some markets can be attributed to this. The job market is unexpectedly strong and buyers' fear of out-of-market pricing. "Much of the previous strength in resale activity was impacted by extrapolation expectations," the report said. "The report concludes that with rising household debt,

wage stagnation and an expected rise in interest rates, a rapid rebound may be inevitable.

The Bank of Canada estimates that investors who borrow as owners to purchase secondary property while maintaining a mortgage on a primary property will account for about 20 per cent of all home purchases in Canada between 2018 and 2019.

**March 2020 to February 2022**

The housing market experienced a slight downturn when the pandemic began, especially for condos in larger cities. In response to the pandemic, the Bank of Canada reduce interest rates three times in a month and eased mortgage "stress tests" to allow private banks to accept riskier loans. Prices soon rose. By late 2020, average housing prices were rising at a pace not seen since the housing boom of 2016-2017.

That bypass many forecasts, including CMHC's, which had predicted prices would fall by 9-18%. Instead, the average housing price increased by %5.23 compared to last year. Many markets, particularly the suburbs of big cities and Ottawa, saw double-digit increases. In Oakville, the average housing price in early January rose to $74,000 in just four weeks.

In March, Governor of the Bank of Canada, Tiff Macklem said the bank was only seeing early signs of "excessive exuberance." He said in a question and answer that the bank does not consider any additional measures to cool the market. "We need growth," he said. While other countries tried to cool their overheated markets, Canada did not, citing concerns about the economic recovery.

As of mid-March, the bank was expected to keep interest rates low until 2023, it resists requests from investors and economists that higher rates are needed to cool the market. However, in mid-June, as financial spending boomed and households flushed with stimulus-induced cash, investors expected the Bank of Canada to start raising rates in 2022.

In early 2021, Maclean's reported that magnificent cities that are popular with teleworker labourers are experiencing population growth at the expense of major urban centers. In particular: Statistics Canada data on population movement shows that from July 1, 2019 to July 1, 2020, Toronto and Montreal recorded population losses, while Halifax had the second-fastest growth among large metropolitan areas, Moncton also grew faster than average. Home prices have increased as people across Canada buy property in Maritimes landscapes which are not seen through virtual tours. And Fredericton's U-Haul dealer is trying to keep up with all the people renting moving trucks in Ontario and Quebec and trying to leave them in his land, to continue.

During the Covid-19 pandemic in Canada, statistics showed that the housing sector grew, but most other sectors of the Canadian economy did not. Recent data from Statistics Canada shows that for the first time in history, investment in the housing market now accounts for more than 50% of total investment in the Canadian economy.

**The collapse of the Canadian real estate market in 2022**

Starting in February 2022, prices fell rapidly as the Bank of Canada raised interest rates. Detached home prices in the Greater Toronto Area fell by $400,000 by September 2022. As the Bank of Canada raised overnight interest rates to above 4%, mortgage rates rose to more than 5.5% and put more pressure on borrowers. Inflation accelerated due to the energy crisis. So there is no end in sight to how high interest rates can reduce inflation. The Trant National Bank Home Price Index peaked in May 2022 and declined by 10% by mid-January 2023, that is "the biggest contraction in registered index" since its inception in 1999. The contractions from the peak to January 2023 were significant. in London (-26%), Cambridge (-25%), Kitchener-Waterloo (-25%), Brantford (-24%), Hamilton (-

23%), Niagara Region (-20%) and Barrie (-20%).

### 2023 Prohibition of foreign ownership

On January 1, 2023, Canada enacted a law that, in response to the real estate bubble, barred foreign nationals, excluding immigrants and permanent residents, from purchasing residential land in the country for two years.

## Regional differences

Some commentators have stated that Canada as a whole did not have a real estate bubble, only Toronto and Vancouver actually did. As is common in all countries, prices vary widely between urban and rural areas, between regions, and between cities within a region. However, because Canadian regions have very different economic bases, the impact of price increases in the 21st century has been almost completely opposite in the two types of cities: Urban areas based on financial services, production, international trade, services and tourism. The Golden Horseshoe, Lower Mainland, southwestern Ontario, moves up sharply when cities based around resource extraction (e.g. the Calgary-Edmonton Corridor) are flat or declining. Conversely, resource-dependent cities have had stronger periods of growth than service-focused cities during periods of resource price increases.

Economic growth, immigration rates, and thus housing prices in Alberta, Saskatchewan, and Newfoundland and Labrador are tied to oil and gas prices and so they experienced their strongest growth during and immediately after the oil price jump of 2003-2008 and 2009-2014. Growth slowed or reversed during and after the drop in oil prices in 2008-2009 and 2014-2016. The impact of the short-term price falls in 2020 was limited: average home prices in Alberta overall did not decline year-over-year from 2019 to 2020 as many had predicted, but they did slightly in Calgary.

Vancouver has experienced more foreign direct investment than any other Canadian city since the 1990s, and has also experienced

strong immigration and so it has increased faster than other parts of the country. High prices in Vancouver have pushed middle-class buyers to other parts of British Columbia.

Like British Columbia, prices in Ontario have risen fastest in the core city of Toronto, which, like Vancouver, is a major center for foreign investment and immigration. Rising prices elsewhere in Ontario may be a ripple effect emanating from Toronto.

By 2020, the Quebec and Maritime provinces did not experience as much price growth as the rest of the country because their economic growth and population growth are generally much slower.

Immigration to Canada has been concentrated mainly in Ontario and British Columbia since the mid-2010s ,which has caused the prices in these provinces to increase much faster than other provinces.

People displaced from big cities by high prices have driven up prices in a limited number of popular small towns and create secondary bubbles in those places, but not in smaller towns and cities in general, which compared to the cities, are much cheaper than before. A generation ago, the few smaller towns that grew rapidly were towns in the commuter belt of major cities (the 905 area of Ontario or the Fraser Valley in British Columbia) as well as towns known as retirement communities.

In January 2021, the Vancouver Sun newspaper reported that by $500,000 could buy a detached house with five-bedroom, four-bathroom in Killarney Road, New Brunswick (a commuter town near the provincial capital, Fredericton). While in Vancouver, you can only buy a house with the same money. 495 square foot one- bedroom apartment in Vancouver's Kitsilano neighborhood.

The economic impact of the COVID-19 pandemic in Canada has included rapid increase in prices in previously favorable suburban and exurban areas. Presumably this is due to those leaving urban

conexs who expect to spend more time at home (either because of telecommuting or because they don't feel comfortable spending their non-working hours in busy urban amenities like restaurants and theaters). They want space to add a home office or a bigger backyard to stay. However, some urban areas have experienced strong growth.

## Money laundering

According to Stephen Schneider, professor of criminology at St. Mary's University in Halifax, "We've never seen anything like this in Canada, and you probably won't see anything like this anytime soon." Schneider also said: "I have never seen such a large operation that is geographically limited." His comments were part of the Cullen Commission, an ongoing public inquiry into money laundering in British Columbia led by British Columbia Supreme Court Justice Austin Cullen. The Cullen Commission estimated that in 2019 alone, $3.5 billion illegal funds were laundered through the Vancouver real estate market, driving up housing prices by %5.

Experts refer to the "Vancouver model" as a way for Chinese organized crimes. To launder the proceeds from the sale of Fentanyl through the casino.

In 2016, Transparency International Canada found that 33 percent of the most valuable residential properties in Vancouver were owned by shell companies, and at least 11 percent had nominations on their title.

Transparency International Canada also studied corporate ownership of Greater Toronto's residential real estate. And found that between 2008 and 2018, $20 billion in acquisitions were made using more than 50,000 companies without any checks and balances to determine the beneficial owners or source of funds. Approximately

$8.9 billion (%49) of these purchases were “all cash purchases,” that is, no mortgage debt was used for purchases. In

addition, approximately $10 billion (%50) of the same corporate purchases of mortgages were used from illegal private lenders. In contrast, only 11% of households buy property with "all cash" and %3 use private lenders. Additionally, Transparency International Canada has emphasized that part of the problem is a lack of data. The availability of real estate ownership data varies by province and is hidden behind a paywall.

## Dangers

Canada is a country heavily dependent on the real estate industry, which will account for approximately 14% of its GDP in 2021. Worse, there will be a flood of people selling their properties, which will cause prices to drop and potentially snowball. Canadians are increasingly carrying large amounts of mortgage-related debt, and in June 2021, it will reach about $2 trillion of total housing debt.

Short-term with fixed-rate mortgages are prevalent in Canada, the interest rate is usually locked for five years. This contrasts with the United States, where most homeowners have long-term with fixed-rate mortgages. If reset rates are higher in five, ten or fifteen years than in the past, there will be a greater risk of declination for Canadians with high debt. Since two-thirds of Canadian mortgages are backed by insurance, the increase in debts will cause the debts to be borne by the Canadian government and private mortgage insurers. Any decline in home prices can also cause homeowners to owe more on their mortgage than the home is currently, which is known as negative specific value.

### Prohibition of ownership by foreigners in 2023

On January 1, 2023, Canada enacted a law that, in response to the real estate bubble, prohibits foreign nationals, excluding immigrants and permanent residents, from buying residential properties in this country for two years.

## Regional differences

Some commentators have stated that Canada as a whole has not had a real estate bubble and that only Toronto and Vancouver are experiencing such a bubble. As is common in all countries, prices vary greatly between urban and rural areas, between regions and between cities within a region. However, since the regions of Canada have very different economic bases, the effect of price increase in the 21st century has been almost completely opposite in two types of cities.

Immigration to Canada has been concentrated mainly in Ontario and British Columbia since the mid-2010s, and this phenomenon has caused prices to rise much faster in these provinces than in other provinces.

## Economic dangers and risks

Canada is a country that is heavily dependent on the real estate industry, with approximately %14 of its GDP in 2021 coming from this industry. There is a big risk that if sentiment starts to change and investors feel the market is about to get worse, there will be a flood of people selling their properties, causing prices to fall and a snowball effect. Canadians are carrying increasingly large amounts of mortgage-related debt, and in June 2021 this figure will reach nearly $2 trillion of total mortgage debt.

• US real estate bubble

Washington Post writer Lisa Sturtevant thinks the housing market in 2013 does not represent a housing bubble. "A fundamental difference between the current market and the overheated market in the middle of the last decade is the nature of the mortgage market. Stricter subscription standards have narrowed the collection of

potential buyers of housing to those who qualify and are likely to be able to pay. Demand is more based on market fundamentals this

time and the price growth we have experienced recently is "real". Another recent researches also shows that mid-level managers in securitized finance are not aware of the problems in the overall housing market.

Economist David Stockman believes that the second housing bubble started in 2012 and is still rising until February 2013, while they're waiting for the return of housing. Due to the QE3 policies, mortgage interest rates have been at their lowest levels and have increased real estate values. Home prices in metropolitan areas such as the San Francisco Bay Area and Las Vegas have risen abnormally by %25 percent in one year.

The US housing bubble of the 2000s was a real estate bubble that affected more than half of the US states. This bubble was the instigator for the mortgage crisis without credit. Housing prices peaked in early 2006, began to decline in 2006 and 2007, and reached their lowest point in 2011. On December 30, 2008, the Case-Shiller Housing Price Index reported its largest price decline in its history. The credit crisis caused by the bursting of the housing bubble is one of the major causes of the Great Depression in the United States.

## Housing cost by state

Rising foreclosure rates in 2006–2007 among US homeowners led to the crisis in August 2008 led to the August 2008 crisis in the subprime, collateralized debt obligation (CDO), mortgage, credit, hedge fund, and foreign banking markets. In October 2007, US Treasury Secretary Henry Paulson called the bursting of the housing bubble "the most important risk to our economy".

Any collapse of the US housing bubble has a direct impact not only on home valuations but also on mortgage markets, home builders, real

estate, home supply retail stores, Wall Street hedge funds held by large institutional investors and foreign banks, and that raises the

risk of a nationwide recession. Concerns about the impact of housing market collapse and credit on the larger part of U.S. economy caused George W. Bush, the president of the United States and Federal Reserve Chairman Ben Bernanke to launch a limited bailout program to support the U.S. housing market for homeowners who are unable to pay their mortgage debt.

Only in 2008, the US government allocated more than $900 billion in special loans and bailouts related to the US housing bubble. This amount was shared between the public sector and the private sector. Because of the large market share held by Fannie Mae and Freddie Mac (both government-sponsored companies), as well as the Federal Housing Administration, they received a significant share of government support, even though their mortgages were undertaken more conservatively and actually performed better than the private sector.

**Figure 1: Robert Shiller's plot of housing prices, population, construction costs, and US bond yields, from Irrational Euphoria book**

Shiller shows that inflation-adjusted housing prices in the United States rose by %0.4 per year from 1890 to 2004 and by %0.7 per year from 1940 to 2004. While US Census data from 1940 to 2004 shows that their self-assessed value increased by %2 annually.

The price of land has played a role in increasing prices much more than structures. This can be seen in the building cost index in Figure 1. The estimated value of the land in the total cost of a house can be obtained from the price of the house by subtracting the replacement value of the structure and the necessary adjustments for the depreciation cost of the structure. Using this method, Davis and Palumbo calculated land values for 46 US metropolitan areas, which can be found on the website of the Lincoln Institute for Land Policy.

Housing bubbles can occur in local or global real estate markets. In their late stages, they are typically characterized by rapidly increasing property valuations until they reach unsustainable levels relative to income, price-to-rent ratios, and other economic indicators of financial affordability. This may be accompanied by falling home prices, which results in many homeowners finding themselves in a position where the negative equity value of the mortgage debt is higher than the value of the property. The main reasons for the housing bubble are complex. Factors include tax policy (housing exemption from capital gains), historically low interest rates, poor lending standards, lack of regulatory intervention, and speculative fever.

This bubble may be related to the stock market or the Dot-com Bubble of the 1990s. This bubble is almost coincided with real estate bubbles in the UK, Hong Kong, Spain, Poland, Hungary and South Korea.

While developing bubbles may be detectable, bubbles can only be definitively measured in the future after a market reform which started in 2005-2006 for the US housing market.

"We had a housing bubble," said Alan Greenspan, the former chairman of the US Federal Reserve Board and also following the mortgage and credit crisis in 2007, he said: "I didn't really realize it until late 2005 and 2006." In 2001, Alan Greenspan cut interest rates below %1 so that the economy can jump after the "com" bubble. It was then that bankers and other Wall Street firms borrowed money because it was cheap.

The mortgage and credit crisis was caused by the inability of many homeowners to pay their mortgages, because mortgages with low initial rates returned to normal interest rates. "We had a bubble," concluded Chief Executive Officer(CEO) of Freddie Mac, Richard Syron and he agreed with Robert Shiller, economist at Yale University warning that home prices are overvalued and reform can take years and wipe out trillions of dollars in home value. Greenspan warned of a "big double-digit decline" in home values "more than most people expect."

Problems for homeowners with good credit appeared in mid-2007 and it prompted the largest US mortgage lender, Countrywide Financial, warn that a housing recovery could not be expected at least until 2009. Because housing prices are falling "almost" like never before, except for the "Great Depression."

## Tracing

Although it is difficult to identify an economic bubble except in the future, several economic and cultural factors led many economists (especially in late 2004 and early 2005) to argue that a housing bubble existed in the United States. Dean Baker identified the bubble in August 2002 and has since repeatedly warned about its nature and depth, and the political reasons why it has been ignored. Before that, Robert Prechter wrote extensively about it, as did Professor Schiller

in his original publication of Irrational Exuberance in 2000. The bursting of the housing bubble was

predicted by a number of political and economic analysts, such as Jeffrey Robert Hahn in Article March 3, 2003.

Hahn wrote: We can profit from the collapse of the credit bubble and the subsequent sell-off in stocks. However, real estate has not yet participated in the decline in prices fueled by sales and expropriation. Unless you have clear reason to believe that real estate will outperform all other investments for several years, you might consider this time to cash out on investment properties (for use in more profitable markets).

Many contested any suggestion based on the existence housing bubble, especially at its peak from 2004 to 2006, and some rejected the label "housing bubble" in 2008. Claims that there was no warning about the crisis were rejected in an August 2008 New York Times article who reported in mid-2004 Richard Syron. Freddie Mac CEO received a note from David Androkonis, the company's director. The former chief officer warned him that Freddie Mac was financing risky loans that threatened Freddie Mac's financial stability. Mr. Androkonis wrote in his note that the loans would "probably pose a huge financial and credit risk to the company and the country." The article revealed that more than two dozen senior executives said Mr. Syron simply choose to ignore the warnings.

Other warnings came as early as 2001, when the late Federal Reserve Governor, Edward Gramlich warned about the dangers of overpriced loans. In September 2003, in House of Representatives Financial Services Committee hearing, Ron Paul identified housing bubble and he predicted the problems that would arise: "like all artificially created bubbles, housing price booms cannot last forever, when housing prices decrease. In addition, mortgage loan holders will also suffer."

Reuters reported in October 2007 that an analyst, Merrill Lynch had also warned in 2006 that companies could suffer from these low-credit investments. The Economist magazine stated: "The increase

in housing prices around the world is the biggest bubble in history". Any explanation therefore needs to examine its global causes as well as those specific to the United States. Alan Greenspan, then chairman of the Federal Reserve Board, said in mid-2005 " that there is at least some 'price floor' (in the US housing market). It's hard not to see that there are a lot of local bubbles." Greenspan admitted in 2007 that the price floor "was a better definition of a bubble".

In early 2006, President Bush said about the US housing boom: “If houses become too expensive, people will stop buying them. Economies must have cycles.

According to market data in 2006, which indicated a significant decrease, including lower sales, increased inventory, lower median prices, and increase in expropriation rates, [citation needed] some economists have concluded that a reform in the US housing market has begun since 2006.

Fortune magazine's May 2006 report on the US housing bubble states that: "the great housing bubble is finally starting to deflate. "In many flamed markets across the country, reports of falling retail prices have been replaced by stories of foreclosed home waiting lists and bidding wars over boring three-bedroom colonials."

Chief economists of Freddie Mac and director of the Joint Center for Housing Studies (JCHS) denied the existence of a national housing bubble. And they were skeptical about any possibility of a significant decrease in housing prices due to the increase in demand, due to the increase in population and the state of full employment. However, some have said that the funding JCHS received from the real estate industry may have influenced their judgment.

Yuvid Leary, former chief economist of the National Association of Realtors (NAR)published "Anti-Bubble Reports" in August 2005 to

"respond to irresponsible bubble accusations made by your local media and academics".

Following reports of rapidly declining sales and devaluations in August 2006, Larry admitted that he expected " The price of housing at the national level should be reduced by% 5, more in some markets, less in others. And several cities in Florida and California, where home prices peaked, may have a "hard declination."

National housing sales and prices both decreased sharply in March 2007- The steepest drop since the 1989 savings and loan crisis. Sales fell 13% to 482,000 from a peak of 554,000 in March 2006, and the national median price fell nearly 6% to $217,000 from a peak of $230,200 in July 2006, according to NAR data .Sales fell 13% to 482,000 from a peak of 554,000 in March 2006, and the national median price fell nearly 6% to $217,000 from a peak of $230,200 in July 2006, according to NAR data.

• Australian real estate bubble

An Australian property bubble is an economic theory that the Australian property market has become significantly overpriced or is becoming a significant downturn. (which is also called reform or fall). Since the early 2010s, various commentators, including a officials of the Ministry of Treasury, have claimed that Australia's property market is in a significant bubble.

Various industry experts have argued that this is not a bubble and that housing prices have the potential to rise in line with income growth. The Reserve Bank of Australia (RBA) believes that much of the recent rise in property prices since the 1980s, When the interest rate has dropped from the mid-term recession to the lowest level, has been a transmission mechanism to create the wealth effect and stimulate the economy.

A property bubble is a form of economic bubble typically characterized by rapid increases in property market prices until they reach unsustainable levels relative to income and rents and then decline.
Australian house prices rose sharply relative to incomes and rents in the late 1990s and early 2000s. However, from 2003 to 2012 the price-to-income ratio and the price-to-rent ratio both remained relatively stable, with house prices tracking income and rent growth over that decade. Since 2012, prices have once again risen sharply relative to income and rents.

In June 2014, the International Monetary Fund (IMF) reported that housing prices in several developed countries were "higher than the historical averages" and that Australia had the third highest housing price-to-income ratio in the world. In June 2016, the Organization for Economic Co-operation and Development (OECD) reported that Australia's housing boom could end in a "dramatic and destabilizing" real estate hard declination.

## Australian real estate market

The Australian property market saw an average real price increase of about 0.5% per year from 1890 to 1990, almost in line with the consumer price indexes(CPI). However, since the 1990s, prices have risen more rapidly, resulting in higher price-to-income ratios.

In the late 2000s, house prices in Australia, relative to income, were at high levels similar to many similar countries, prompting speculation that Australia was experiencing a real estate bubble like other similar countries. Since then, several comparable countries have experienced real estate declines.

## Increase in housing prices

All capital cities have seen a sharp rise in property prices since around 1998. Sydney and Melbourne have had the most price

increases. With the increase of housing prices by %105 and %93.5 respectively since 2009. Low interest rate recession and household debt recession equivalent to %130 of GDP. This reflects unsustainable property growth, fueled by higher debt levels under then-former RBA chairman Glenn Stevens, who began decreasing rates in 2011.

Housing Affordability in Australia - Finding the Good Home reports that "median house prices in capital cities are now equivalent to more than seven years of middle income; From three years in the 1950s to the early 1980s. Factors that may contribute to the increase in property prices include:

Greater availability of credit due to financial deregulation

Low interest rates since 2008, increased borrowing capacity due to lower repayments.

Limited release of new lands by the government (reduction of supply).

The average floor area of new houses increased by 53.8% in 18 years from 1984 1985 to 2002 2003.

A tax system that favors investors and existing homeowners, with policies such as negative allocation and capital gains on tax relief

Government restrictions on land use prevent the use of land with higher density.

Government restrictions on greenfield development are designed to encourage "urban density"

High population growth (about twice the global average in 2010 - see population growth rate chart

Foreign investment law changes in 2008 for temporary visa holders

Introduction of basic infrastructure levies by local councils in the early 2000s.

Implementation of government plans such as plans for first-time home buyers and first-time home builders, which increases demand and, as a result, increases prices (supply and demand).

## The effect of planning laws

Beginning in the 1980s, Australian states (which constitutionally govern environmental and land use issues) gradually began implementing more rigid planning laws that regulated land use. Planning legislation after the 1990s often focused on restricting greenfield development in favor of "urban density" or overcrowded development.

Land rationing is a system of prohibiting development in all but designated areas, and if not enough land is designated as permitted for development, it can lead to severe inflation of land prices. Restrictive planning laws in Australia have used land rationing systems as part of their aim to limit greenfield development in favor of inland development, but this inevitably leads to higher land prices and therefore housing prices. There is good evidence that the price of a new housing unit is the ultimate anchor for all housing in an area, so when planning laws enforcing land rationing drive the cost of new homes up sharply, all other houses follow suit.

## The impact of the tax system

The Reserve Bank of Australia has noted that "there are a number of areas where tax treatment in Australia is more favorable to investors than in other countries.

The main tax incentives include tax deductions for investment property losses, even those that are negatively designed, and a% 50 capital gains rebate on the sale of investment properties.

Investors who use their pensions to invest in property have a tax advantage compared to 'savers' who are actually up to %45 (highest

marginal tax rate) on income from bank or bond interest, because pension contributions are usually only taxed at around %15.
The list of taxpayers' financial support of the real estate market is numerous.

- Federal
  - Capital gains discount
  - negative gear
  - Exclusion from the asset test of the pension for the elderly of the main house
  - First House Extraordinary Plan (tax deduction for voluntary contributions)

State of

- Stamp discount
  - First home owner stamp exemption
  - Land tax option instead of stamp duty

Temporary supports

- Home Builder (Federal)initially had a budget of 680 million dollars, actual cost estimated to be over $2 billion due to oversubscription.

## The impact of the banking system

The effect of interest rate and banking policy on the property price has been considered. Financial deregulation has led to greater availability of credit and a variety of financial products and options. Currently, the Reserve Bank of Australia has maintained a low cash interest rate policy for some time, which has also reduced the cost of financing property purchases. Additionally, the easy availability of interest-bearing loans has made it possible for property investors to borrow to buy property and incorporate the benefits of negative gearing.
Housing costs are excluded from CPI:

One of the market deviations in the housing market is related to the calculation of the CPI consumer price index, a key measure that the

RBA uses to make monetary policy decisions such as setting interest rates. A senior economist noted: "This index ignores price changes in the largest purchase an individual (or household) is likely to make in their lifetime.

## Immigration to Australia

A number of economists, such as Macquarie Bank analyst ,Rory Robertson, claim that high immigration and the tendency of newcomers to cluster in capital cities are exacerbating the country's housing price problem. According to Robertson, federal government policies that increase housing demand, such as the current high levels of immigration, as well tax abatement on capital gains and subsidies to boost fertility, have had a greater impact on housing affordability than freeing up urban fringe land.

Productivity Commission Research Report No. 28 First Home Ownership (2004) also stated in relation to housing that "immigration growth since the mid-1990s has made an important contribution to underlying demand, particularly in Sydney and Melbourne. This has been exacerbated by Australian lenders which eased credit guidelines for temporary residents, allowing them to buy a home with a 10 per cent deposit.

RBA in his submission to the same PC report also announced that "rapid growth in overseas visitors such as students may have increased demand for rental accommodation". But in this report, the statistical coverage of the resident population was discussed. “Australian Bureau of Statistics (ABS) population growth figures exclude certain household-forming groups – for example, overseas students and business migrants who do not stay in Australia continuously for 12 months. » This statistical removal led to the acceptance of: "the Commission recognizes that ABS resident population estimates have limitations when used to assess housing demand. Given the significant influx of foreigners who have come

to work or study in Australia in recent years, it seems highly likely that this will be short-lived. The movement of visitors may add to

the housing demand. However, the commissioners are unaware of any research quantifying the effects. »
Some individuals and interest groups have also argued that immigration causes heavy infrastructure.

## Foreign investment in residential properties

In December 2008, the federal government introduced legislation to ease the rules for foreign buyers of Australian property. According to FIRB (Foreign Investment Review Board) data released in August 2009, foreign investment in Australian property has increased by more than 30% up to now. One representative said that "foreign investors are buying them for the land bank, not for renting them out". Houses only remain vacant because they are looking for capital growth.
In April 2010, the government announced policy reforms to ensure that foreign non-residents can only invest in Australian property if the investment is added to housing stock, and the temporary resident's investments in settled property are for their use only while they live in Australia.
According to the rules, temporary residents and foreign students are:
• They are reviewed by the Foreign Investment Review Board to determine if they are allowed to purchase the property or not.
• They are forced to sell the property when they leave Australia
• If they do not sell, they will be punished by selling by the order of government in addition to the confiscation of any capital gains.
• Necessary to build on vacant lands within two years after purchase to avoid "land banking"
Failure to do so will result in sale by order of the government.
Several Australian banks and lenders offer mortgage loans to non-residents to purchase Australian property. It is also believed by

some to have contributed to the increase in property prices in Australia.

## Government inquiries related to housing

In 2002, the government launched a Productivity Commission inquiry into home ownership in Australia. The commission's report titled "First Home Ownership" observed that "general tax arrangements [capital gains tax, negative gearing, capital works deductions, and depreciation provisions] have created an incentive for the recent increase in investment in rental housing and subsequently houses".
The government's response to this report states: "There is no conclusive evidence that the tax system has a significant impact on housing prices."
In 2008, another study was conducted. The 2008 Senate Select Committee on Housing Affordability in Australia noted in its report that "by some measures, housing affordability is at its lowest level.
The Australian Future Tax System (AFTS) review, better known as the Art Tax Review, made a number of recommendations that impacted the housing market, including:

Introduction of land tax "on all land. Removal of inhibiting factors for institutional investment in rental properties".

That "property transfer taxes should be reduced and eventually eliminated"

A move towards a more neutral treatment of personal income tax compared to private housing rental investment through a 40% discount on the total income and net residential rental losses and capital gains.

Regarding recommendations for changes in tax policy that may affect the housing market, the government advised that it "will not implement the following policies at any stage"

Include family home in mean tests (see Rec 88c),

Introduce a land tax on the family home - this is a state tax and therefore problematic for the states

Reduce capital gains tax (CGT) relief, apply relief for negative gearing deductions, or change grandfathering arrangements for capital gains tax(CGT).

In May 2015, The House of Representatives Standing Committee on Economics launched an inquiry into home ownership. Almost two years later, it was announced that the inquiry had made no recommendations.

In 2017, a royal commission into misconduct in the banking, pensions and financial services industry was established. The investigation into the banking violations began on March 13.

## The impact of housing price inflation on the larger economy

Deviation of capital from the rest of the economy

Rising residential housing costs can lead to excessive lending to the residential housing sector and to the detriment of businesses. This could lead to "a banking system that allocates capital away from the most productive areas of the economy - business - ultimately it's bad for growth, bad for competition, bad for jobs, bad for trade and ultimately bad for Australia."

Research conducted in overseas markets confirms that "in areas where housing values are high, banks increase the amount of mortgage loans and decrease the amount of commercial loans as a fraction of their total assets. This allocation allows companies to receive less loan amount and pay more interest.

## Australian specific market factors

The Australian market had several characteristics that, individually or in combination, are not common in other housing markets.

Very limited land supply and very onerous planning approval processes

Unusually high complications

High proportion of mortgage loans with variable rates compared to past housing bubbles outside Australia makes borrowers more vulnerable to rising interest rates.

Reduction of income tax through negative gearing

Social Security (Centrelink which provides a payment including rental assistance which is calculated based on the amount of rent paid

Only returned loans

One of the most urban populations

Large areas of rural and remote areas of Australia cannot guarantee bank loans against land in those areas

• Russian real estate bubble

As the first response to the Covid-19 pandemic in 2020 and then in the invasion of Ukraine, residential real estate prices in Russia rose rapidly: comparing the last quarter of 2019 with the second quarter of 2022, the average increase of the entire economy amounted to 56.57 percent while the inflation in the same period reached 17.27 percent, which means an increase of 15.23 percent higher than the inflation during 1.5 years.

• The housing bubble of the Baltic countries

The housing bubble of the Baltic countries was an economic bubble that included the big cities of Estonia, Latvia and Lithuania. The three Baltic countries have enjoyed relatively strong economic growth between 2000 and 2006, and their real estate sectors have performed well since 2000. In fact, between the first quarter of 2005 and the first quarter of 2007, the official house price index for Estonia, Latvia and Lithuania increased sharply. Jump 104. %6,
134. %3 and 106. %7. Compared to the official housing price index for the Eurozone, it increased by %8.11 in the same time period.

This crisis finally occurred in 2007 due to the financial crisis of

2007-2008, which resulted in fragile Baltic economies. House price

reforms started in mid-2007 in Estonia, followed by Latvia and Lithuania in mid-2008. Subsequently, Latvia and Estonia experienced a recession in the first half of 2008, while Lithuania experienced a decline in its economy in the first half of 2008. It has entered a full-scale recession. All three countries were in recession by 2009.

An increase in the supply of credit to the private sector due to the availability of financing from foreign lenders (mainly Scandinavian banks) was largely responsible for the housing bubble in the Baltic States.

Domestic banks (especially Parex Bank, a national bank in Latvia) relied heavily on their foreign loans (in euros) with extensive exposure to the real estate sector. The situation worsened due to the absence of loan-to-value ratios as well as negative real interest rates, which encouraged speculators to increase the demand for housing in the market. Credit supply then worsened at the height of the boom as foreign and domestic banks intensified lending standards due to higher credit risk in the region. Subsequently, the real estate market tanked, credit quality deteriorated, and banks were forced to harden lending standards.

The severity of the crisis was different from one to another. Latvia was the most affected by this crisis. In November 2008, Latvia requested balance of payments support from the International Monetary Fund, the European Union and regional members to boost its financial situation after the bailout of Parex Bank (largest bank in Latvia). Lithuania experienced less impact of the crisis compared to Latvia, as it adopted significant austerity acts and measured more stimulus compared to both Baltic countries. However, public sector wages were faced reduction as well as fewer social benefits. Estonia, on the other hand, saw reduction in public sector wages and benefits in order to improve the budget balance in preparation for adopting the euro. After the collapse of the Soviet Union and the

economic recession caused by the Russian financial crisis in 1998, the economy of the Baltic countries has been one of the fastest growing in the European region. To minimize their dependence on Russia, the Baltic States preferred to move closer to Western Europe. By the early 2000s, the economies of the Baltic States had begun to grow, somewhat higher than some of their Eurozone counterparts. After Estonia, Latvia and Lithuania joined the European Union in 2004, the period between 2005 and 2007 saw the economies of the three Baltic countries overheating. A combination of above-potential growth, high inflation and a huge increase in the current account deficit were identified as the causes of the overheating of the economy in the Baltic States. A combination of above-potential growth, high inflation and a huge increase in the current account deficit were identified as the causes of the overheating of the economy in the Baltic States. A credit boom, in addition to increased real estate investment spurred by foreign (mainly Scandinavian) banks, worsened this scenario. All these factors led to a housing bubble in the Baltic States and tested the real estate sector beyond sustainability.

## Liberalization of financial services in the Baltic countries

After the liberalization of financial services in the Baltic countries, the banks of the Nordic region were competing for market share in the Baltic countries. Therefore, this allowed capital to flow in and expand credit to the Baltic States. In Latvia, foreign banks took over 60% of the financial sector, while in Lithuania and Estonia they took over 90% of the country's financial sector. Due to the abundant global liquidity, parent banks from the Nordic region were able to offer very low interest rates to the Baltic population. An important consequence of the "cheap" credit of the parent banks led to historically low interest loans (especially mortgage loans) in the Baltic States. Along with over-optimistic attitudes about integration

with the EU, investors' risk appetite for asset speculation was higher. Ultimately, this led to a housing bubble in the Baltic States.

## Poor risk management in financial services in the Baltic States

Another direct consequence of "cheap" credit abroad led banks to carelessness lending with the backing of parent banks. Real interest rates on deposits are falling as interest rates are freely reduced in the Baltic States. During the housing bubble period in the Baltic States, the deposit-to-loan ratio continued to rise - much higher than in the entire euro area. For this reason, Baltic banks have to heavily borrow in euros before transferring currency risk to potential clients abroad. Such a move was unsustainable. Many banks in the Baltic states find themselves "trapped" with high euro-denominated debt. When housing prices in the Baltic countries collapsed, the Baltic banks were unable to repay their debts due to high non-performing loans and did not have enough liquidity to cover their debts to their parent banks.

## Inflow of foreign capital through real estate and financial services

After integration with the European Union, the Baltic States enjoyed strong economic growth and subsequently one of the fastest economic growth in Europe. Thus, the Baltic States emerged as a major destination for foreign direct investment (FDI). In general, the majority of foreign direct investment to the Baltic States was directed towards non-tradable goods, especially the real estate and financial sectors compared to the manufacturing sector. In this case, some researchers have argued that such investment will lead to a boom in consumption, but will not lead to an increase in productivity in the tradable sector. Subsequently, this led to a reallocation of labor and capital resources from more competitive to non-tradable sectors and thereby increasing domestic demand.

## Features of the loan for the purpose of mortgage

The growth of housing-related loans during the real estate bubble accelerated much more than most of the euro area. Since the majority of mortgage loans had variable (rather than fixed) interest rates, borrowers were exposed to interest rate fluctuations and potentially sharp declines in property prices. In addition, with the exception of Lithuania, both Estonia and Latvia did not impose any ceilings on loan-to-value ratios and debt-to-income ratios. Borrowers in Estonia and Latvia were also virtually free of maturity limits on their mortgage loans due to the absence of such conditions by lenders.

## Low tax rate

Housing taxes in Estonia, Latvia and Lithuania were very low compared to the EU average during the housing bubble. Furthermore, transfer taxes didn't almost existent in Estonia and Lithuania. While the average property tax in the EU was %1.0 of its GDP, the average tax in the Baltic states is much lower than their EU counterparts. Real estate tax 0. 2-0. 3% of GDP in Estonia, while Lithuania (0. 4-0. 7% of its GDP) and Latvia (0. 3%) formed during the housing bubble period. Given that real estate taxes in the Baltic States are far lower than in the majority of the EU region, this has created a strong incentive for speculation.

## Estonia:

The 2009 budget includes several strict measures to control the deficit in order to meet the Maastricht GDP ceiling as a condition for adopting the euro. Operating expenses fell after an average decrease of 8 percent across ministries, as well as a freeze in the wage bill in 2008 following the layoff of government employees. The reduction in total operating costs was estimated at %2.6 of Estonia's

GDP in 2009. To increase government revenue, the majority of enacted income tax cuts were delayed, although no new

taxes were introduced at the time. However, indirect taxes and costs, for example, the value added tax base was increased and the value added tax was also increased from %18 to %20. Total revenue was about %2.7 of Estonia's GDP in 2009. The Bank of Estonia has also imposed necessary requirements to maintain mandatory reserves of 15%. It has strong banking regulatory frameworks that include a capital requirement of 10% (the international norm of 8%), as well as the limited deposit guarantee scheme. In addition, the deposit guarantee scheme (also known as deposit insurance) has been increased from €20,000 to €50,000 which applies from October 23, 2008. This coverage covers more than 90% of deposits in the Estonian banking sector. To increase the guarantee fund, Estonian banks were obliged to pay quarterly insurance premiums to the fund at a fixed rate of %0.125 of the amount of each bank's guaranteed deposits.

Unlike Latvia and Lithuania, only minor protests were reported in Estonia. On 29 October 2009, health care workers consisting of 50 members from the Estonian Nurses' Union and the Federation of Estonian Health Care Professional Unions protested the government's cuts in health care. The Trade Unions Confederation of Estonian also condemned the government's proposal to cut the health care budget.

Meanwhile, according to the polling company EMOR commissioned by the public broadcaster, support for Prime Minister, Andrus Ansip's government fell to 3.4 on a scale of 1 to 10 on December 29, 2008, which was the lowest since March 2005. On the other hand, unlike Latvia and Lithuania, the current government has successfully defended its position in both Estonian parliamentary elections in 2007 and 2011.

**Latvia:**

As part of fiscal measures in Latvia, the Latvian government has introduced several measures to reduce its deficit. Cost reduction

with a 4 percent reduction in GDP (which accounted for approximately 30 percent of central government employee salary cuts), they centralized regulation by cutting retirement pensions by 10% (later aborted by the federal Constitutional Court) and investment by 3% of GDP.

The measurements were estimated at %6.7 of Latvia's GDP. At the end of the income, personal income tax increased from 23% to 26%, tax-free personal income tax allowance to 50 euros per month (from 125 euros per month), value added tax was reduced. It increased by 3% to 21% (2009) and then by 1% to 22% (2011), while reduced rates increased from 5% to 10%. The social share of employees increased from 9% to 11%. In addition, taxes on tobacco, alcohol and energy were increased along with car taxes. Subsequently, a progressive property tax was introduced in 2009, doubling from 2011 onwards. Revenue budget was about 2.8% of Latvia's GDP. In strengthening the financial sector, new FCMC (Financial and Capital Markets Commission) internal guidelines have been introduced to specify quick corrective measures for troubled banks before breaching regulatory thresholds.

New amendments to the Law on Credit Institutions mean that the FCMC may intervene in troubled banks in Latvia. Under the Bank Takeover Law, the government can take over Latvian banks if necessary.

As the economic crisis worsened, large demonstrations on January 13, 2009 in and around the center of Riga resulted in at least 100 arrests and over 30 injuries. The riot was reported to be the largest protest in Latvia's history since the country's independence from the Soviet Union. This was driven by massive public sector cuts and major tax increases following the Parkes Bank bailout in early December. The result of this rebellion was a period of political

instability in Latvia that lasted for more than a year until the Latvian parliamentary elections were held in 2010.

In February 2009, political instability in Latvia worsened with a no-confidence motion against Latvian Prime Minister, Ivars Godmanis, although the motion was unsuccessful. By February 20, 2009, Prime Minister, Ivars Godmanis (Latvian First Party / Latvian Way) resigned from his post after losing the support of the People's Party and the Union of Greens and Farmers.

The President of Latvia, Valdis Zatlers, then nominated Valdis Dambroskis as Prime Minister and formed a government.

Political stability in Latvia was briefly restored in October 2010, although it lasted only a few months. The coalition government (consisting of alliance, Greens and Farmers Union and National Union) was able to win 63 seats (+4) out of 100 contested seats. The former Prime Minister's Party for a Good Latvia (a coalition of the People's Party and the First Party of Latvia / Latvian Way) was badly defeated as it won only 8 seats (-25) out of 100 contested seats.

After the dissolution of the parliament on July 23, 2011, new elections were held on September 17, 2011. From the 100 contested seats, Valdis Dombroskis was re-appointed as the Prime Minister of Latvia.

**Lithuania:**

To deal with the deterioration of the financial deficit, the allocation of current expenses in the 2009 budget was reduced due to the risk of disinflation. Domestic capital projects were replaced, or rather abandoned, with EU funding, and civil servant pay cuts (8-36 percent). ) especially those at the end of the pyramid. The expense budget was about %5.8 of Lithuania's GDP. To increase government revenue, various tax rates have been adjusted, as well as an increase in the VAT base to protect the revenue base. According to the 2009 budget proposal, corporate income tax was raised from 15% to 20%, with a higher tax on dividends. An

increase in the overall VAT rate from 18% to 19%, as well as the elimination of lower rates under VAT except for selected items (such as heating and medicine), in addition to indirect taxes on fuel, tobacco and alcohol. However, temporary measures such as personal income tax rates were cut from 24% to 15% to support such adjustments. Real estate tax was introduced in 2009. The revenue budget allocated for about %1.6 of Lithuania's GDP. To decrease liquidity pressure, the Bank of Lithuania has reduced the necessary resources from 6% to 4% since October 2008. In addition to monitoring bank-to-bank deposits and liquidity positions, it has implemented a number of improvements in internal guidelines for lenders' operations, Lenders of Last Resort (known as LoLR) and collateral valuation procedures. In addition, the deposit insurance was increased to 100,000 euros, as well as the strengthening of bank resolution tools under the Financial Stability Act in Parliament. Under the new framework, government guarantees totaling 3 billion litas, or 3.4 percent of Lithuania's GDP, were issued to increase bank capital and purchase of asset.

In the 2008 Lithuanian parliamentary elections, the current government coalition led by Gediminas Kirkilas by Andrius Kubilius won only 36 seats after the coalition government (consisting of the Social Democratic Party of Lithuania, the Labor Party and the New Union “Social Liberals”). Compared to 80 seats, it was ousted from power by the new government coalition (consisting of the Patriotic Union, the National Resurrection Party, the Liberal and Center Union, and the Liberal Movement). Major reforms were soon implemented by the new government to revive the Lithuanian economy amid some unfavorable decisions. Even before took office in December, British Prime Minister, Andrius Kubilius announced spending cuts and a pay freeze, which is designed to strengthen public finances, as this cut, will reduce revenue growth.

On 16 January 2009, Vilnius was rocked by violent demonstrations due to protesters marched and damaged the parliament building - leading to 86 arrests. Similar to the riot in Latvia, protesters led by the Confederation of Lithuanian Trade Unions were unhappy with the government's decision to reform the tax system in Lithuania, as well as cut public wages. However, austerity policies by Prime Minister Andrius Kobilius led to his defeat in the 2012 Lithuanian parliamentary elections, because the Social Democrats led by Algirdas Butkevičius won the most seats in the parliament.

**China's real estate bubble**

The Chinese real estate bubble of 2005 was a real estate bubble in residential and commercial real estate in China. The New York Times reported that the bubble began to discharge in 2011 while we have seen an increase in complaints that members of the middle class are unable to afford homes in big cities. The deflation of the property bubble is seen as one of the main reasons for the decline in China's economic growth in 2013.

**An empty corridor in the mostly empty New South China Mall**

This phenomenon tripled the average housing price in the country from 2005 to 2009, which was probably caused by government policies and Chinese cultural attitudes. High price-to-income and

price-to-rent property ratios and high numbers of vacant residential and commercial units are cited as evidence of a bubble. Later, the average housing price in the country increased between 2010 and 2013. Critics of the bubble theory point to China's relatively conservative mortgage standards and the trend of increasing urbanization and rising incomes as reasons to justify property prices.

## Economic partners

There were many factors that may lead to an increase in housing prices. Possible contributors include low interest rates and increased bank lending, beginning in 2003 under Wen Jiabao, which provided cheap credit for building and buying property while making competing debt investments less attractive. During the bubble, local government relied on land sales for revenue (taking up to 50 percent of revenue), which provided an incentive to continue selling and developing land. Limited access to foreign investments for Chinese citizens increased the attractiveness of domestic investments such as real estate. Chinese citizens also faced cultural pressures to encourage home ownership, especially for men seeking wives. In response to the global financial crisis of 2007-2012, spending from China's economic stimulus program may have found its way into real estate, contributing to the bubble.

## Non-economic contributors

Gray income: According to independent economist Andy Xie, the scale of China's gray income is huge – possibly a tenth of GDP. Most of the gray income is invested in the real estate market of rows 1 and 2 cities, which contributes to the fact that China's real estate leverage ratio is small compared to real estate bubbles in other countries. The normalization of gray incomes in China fed the real estate bubble in the long term.

## Increased fear of the bubble

Between 2005 and 2011, the average housing price in China's real estate market increased rapidly. Analysts debated whether the increase was the result of a speculative real estate bubble or a genuine increase in demand. Evidence of the bubble includes a significant number of vacant or underperforming commercial and residential properties and continued property construction despite these facts, including an estimated 64 million vacant apartments. There were high price-to-income ratios for real estate, such as Beijing, where the ratio is 27 to 1 year, five times the international average, (27 to 1 based on a double income household, so 54 to 1 for a single income household of approximately $6,500 per year) and a high price-to-rent ratio. For real estate, there was a weak secondary market for Chinese homes, such as in Beijing where the ratio is 500:1 months compared to the global ratio of 300:1 months, with the ratio of secondary to primary residential real estate transactions at 0.26 for the first half of 2009 (four times more new home purchases than secondary sales) In comparison, Hong Kong had a ratio of 7.25 and the United States had a ratio of 13.45.

Chinese companies in the chemical, steel, textile and footwear industries opened real estate divisions, expecting higher returns than their core businesses. During this period, residential housing investment as a share of China's GDP tripled from 2.

However, China's increasing urbanization and rising incomes appeared to continue to support property prices. The World Bank said in a November 2009 report that Chinese house prices had not outreached the rise in national incomes, eliminating concerns of an emerging bubble.

However, the group said in its March 17, 2010 quarterly report that China needs to raise interest rates to control the risk of an asset bubble. In China, there were relatively conservative mortgage

lending practices, especially in contrast to those at the height of the US housing bubble.

The Economist Intelligence Unit's China Access Service published a report in October 2010 titled "Building Rome in a Day: The Sustainability of China's Housing Boom."CHAMPS stands for China's Fastest Growing Cities"

Forecasting the population and average income in nearly 300 Chinese cities and the subsequent demand for housing in China over the next decade. The report states that "Given that China's real estate market is an important global economic indicator, China's housing boom creates opportunities for investors in sectors such as furniture, automobiles and building materials. "Regarding China's urban population, the report predicts that between 2011 and 2020, %1.26 or more than 160 million people will increase, while urban per capita income will increase by 2.6 times to 51,310 RMB (about US$7,500 at the current exchange rate). "

## Reduction of bubbles and its effects on growth

Between 2010 and 2011, policies legislated to prevent the bubble from worsening or preventing it from happening. China's cabinet announced in 2010 that it would monitor capital flows to "prevent overseas speculative funds from jeopardizing China's real estate market." And also start obligating families to buy a second home to pay at least 40% down payment.

In early 2011, Beijing banned the sale of homes to people who had not lived in Beijing for five years. Beijing also limited the number of houses a Beijing native family could own to two, and allowed only one house for non-Beijing families.

By July 2011, the Chinese government raised interest rates for the third time that year. A new nationwide real estate sales tax was

introduced in China in late 2009 as a measure to curb speculative investment. The mortgage discount for first-time home buyers who

offered a 5%, 20-year fixed mortgage just above 4% was also removed.

The deflation of the bubble began in the summer of 2011, when housing prices began to decline in Chinese cities. The end of the asset bubble is seen as one of the main reasons for the decline in China's economic growth in 2012.

As stated in a documentary called (Chinese Dreamland) by David Bornstein in Al Jazeera, China's technocrats planned to avoid the late 2000s financial crisis and recession by creating the largest housing boom in human history under then-prime minister Wen Jiabao. He declares that "trust is more important than gold or capital" to maintain employment and GDP growth. China used more concrete in two years than the United States did in the entire 20th century. The real estate bubble peaked in 2009. In 2012, with large established population centers saturated, developers were building new communities in rural areas to keep up the momentum. Since the best way to market suburban housing was to "internationalization" them by portraying them as metropolises of world trade. The real estate developers invited the "foreign rental" companies to put on "stunning shows in which their foreign employees are presented as famous entertainers, important businessmen, top 20 models, diplomats, architects." The bubble eventually led to the creation of ghost towns that were abandoned incomplete or finished but largely unoccupied. Most of these vacant developments were found in small towns where state-owned industries and mines had closed and new housing projects were seen by local authorities as a means of diversifying as well as liquidating the real estate bubble. The property bubble has led to poor quality design and construction, resulting in buildings that are often unfinished or unoccupied. Developers and contractors often scramble to pocket the money, while there is often a shortage of skilled labor and projects often have tight time

constrained. Austin Williams wrote that this process is consistent with capitalism, where

"its early stages usually consist of making patter, making a profit, and moving on to the next deal- even if the building collapses immediately afterwards". In addition, long-lived buildings are less profitable than buildings built and renovated in the same period of time. In fact, repeated destruction and construction are counted in the economic growth of the GDP.

**Statistics of cities**

- Shanghai
  - Real estate prices increased by more than 150% between 2003 and 2010.
- Beijing and Shanghai
  - According to the NBSC report, the sale of residential buildings increased by 6.32 percent in the first 10 months of 2013. According to Colliers International, in Shanghai, the sales volume of newly built houses up to the third quarter of 2013 increased by 26% compared to the same period last year. But according to the statistics of Beijing Municipal Statistics Bureau, housing sales in Beijing increased by only 3.2 percent in the first 10 months.
- Tianjin
  - It is anticipated to have more prime office space than can be absorbed in 25 years at current rates
- Spanish real estate bubble

The Spanish real estate bubble is part of a long-term increase in Spanish real estate prices. This long-term price increase happened in different stages from 1985 to 2008. Divided into three periods:

1985-1991, in which the price almost tripled. 1992-1996, where the price remained somewhat stable. and 1996-2008, where prices again grew amazingly. At the same time with the financial crisis of 2007-

2008, prices began to decline. In 2013, Raj Badiani, an economist at IHS Global Insight in London, estimated that residential property values had fallen by more than 30 percent since 2007 and housing prices will drop by at least 50% from their peak by 2015. Net Al- Sidi and Gross; "If construction continues at the relatively high rate today, the bubble absorption process will take more than 30 years."

## the presence of bubbles

During the years of the real estate bubble production, there was no consensus among analysts whether it was real or a speculative phenomenon. Various reasons explain this lack of agreement. Procedures have also been developed that allow them to more accurately clarify the existence of a speculation bubble.

Although there is no precise definition of what a speculation bubble should focus on, in the case of the Spanish bubble, there are large differences between the average increase in CPI and wages (3%) and the annual increase in the cost of living. It was evident up to 17%. That is, housing prices increased 6 times faster than wages and average CPI.

In August 2007, the US real estate bubble burst following the subprime or junk mortgage crisis. Shortly after Spain's National Institute of Statistics reported a sharp drop in housing sales (27% in the first quarter of 2008) and a contraction in mortgage lending (25% in January 2008), this is the moment of explosion. The Spanish bubble of construction companies and the main beneficiaries of the price increase were denying the existence of the bubble and they enlightened the interested "myth", as well as other sectors directly related to the building trade, for which there was no bubble, but there was simply "real estate boom". Sectors opposed to the economic situation and more connected to consumers, mainly affected by rising prices and problems of access to housing, insisted

on valuing the same data in the opposite sense in the form of a social criticism and the green movement.

The future evolution of a market affects the actual behavior of an individual. That is, if many potential buyers estimate that a price cut is in the near future, they can wait to buy until it happens. This causes current demand to fall and thus real prices to decrease. If people are waiting for an increase, the same procedure is done in reverse.

On the other hand, the lack of transparency characteristic of the housing market in Spain prevented an accurate assessment of the situation: as you will see in the following, while an institution sent calm and alarming messages at the same time, but these statistics were never systematic. It is characterized by dispersion, when they were not merely contradictory, but remained part of the hidden tax of the real estate market, while part of it moved with black money or some form of corruption. In this regard, some experts even condemned the campaign of lack of transparency and confidentiality of communication tools, which, based on economic interests, avoided mentioning the true nature of the boom in housing costs.

Anyway, in the first months of 2008, the sharp decline of the housing market in Spanish allowed some economists to talk about the speculative bubble and its bursting (such as Alan Greenspan, the former chairman of the Federal Reserve). In the same direction, in April 2008, self-builders and promoters noted that "there has been a huge drop in prices and consumers have blown up the market, implicitly recognizing the increase in real estate asset valuations. A panoramic shadow for this sector and, therefore, for the entire economic structure of Spain. In 2009, no one still doubted that a huge speculative real estate bubble had burst around the world, which was felt with particular intensity in Spain, which for this reason had witnessed a deep economic recession.

According to a 2005 cable from the U.S. Embassy in Madrid, at the time one could warn of signs of significant overvaluation, citing an

imbalance in the rental market under an unfavorable law—which was unlikely. Based on this cable, change under internal pressure in the main parties. It also speculated on the success that when the bubble burst and the financial situation worsened, the government in power called early elections.

## General assessment of the situation

As we will see, if the facts about the real estate market were different in the days accepted by the actors, they would not always correspond to the assessments that generate such data. The same Bank of Spain rejected the idea of a speculative bubble:

According to the Bank of Spain, the results of the work carried out on the housing market did not support the equilibrium or bubble hypothesis, but reinforced the confusion that the state of the Spanish real estate market at the end of the year has been determined. In 2004, overvaluation of suitable housing with gradual absorption found the difference between observed prices and prices explained by its fundamental in the long term.

However, official reports by that organ also recognized the overvaluation of real estate assets and had already warned in 2002 about the possibility of housing devaluation. In 2003, Garcia Montalvo published one of the first papers on the formation of a real estate bubble in Spain.

Those who denied the existence of a speculative bubble and accepted the maximum undervaluation of assets argued the good state of the Spanish economy, stable employment and growth figures and very small default rates, and price growth to demand pressure.

At the other end of the scale, there were criticisms from those who estimated that it was before the real estate bubble with unpredictable consequences:

A huge speculative [real estate] bubble has been formatting for years, described by The Economist (June 18, 2005) as the greatest speculative process in capitalist history.

In general, it was confirmed from critical positions that the dependence of the Spanish economy on the construction industry, as well as excessive debt, can cause economic stagnation in the long term. Especially because of the increase in interest rates. That eroded domestic consumption and increased unemployment rates and default levels, ultimately causing real estate asset values to decline.

## Dynamics

Home ownership in Spain is over 80%. The desire to own one's own home was encouraged by governments in the 1960s and 1970s and thus became part of the Spanish ethos. In addition, tax regulations encourage ownership: 15% of mortgage payments are deducted from personal income tax. Additionally, the oldest apartments are governed by rent controls that are not adjusted for inflation, and evictions are slow, thus discouraging rent. Banks offered 40-year and recently 50-year mortgages.

As feared, when the speculative bubble appeared, Spain became one of the worst hit countries. According to the Eurostat report, during the period from June 2007 to June 2008, Spain was the European country with the sharpest drop in the construction rate. In 2008, new construction almost stopped, but prices were relatively stable at first and sellers were reluctant to offer big discounts. The national average price by the end of 2008 was €2,095 / m2. Actual sales in the period July 2007 to June 2008 decreased by an average of%
3.25 (with a large share of the loss probably occurring in 2008 during this period). Some regions were hit harder than others (Catalonia was the leader in this field with a %2.42 drop in sales,

while less populated areas such as Extremadura only fell 1.7 percent over the same period).

Unlike much of the United States, but like many European countries, like Spain does not recognize mortgage loans as unsecured debt. Because real estate prices have fallen enough that most foreclosures are only 60 percent of the loan, evicts owe a lot on properties they no longer own.

## Price and number of houses built

According to the Central Bank of Spain, between 1976 and 2003, housing prices in Spain doubled in real terms, which means multiplying by 16. In the period 1997-2006, housing prices in Spain increased by about 150% in nominal terms, which is equivalent to 100% real growth. It is said that from 2000 to 2001, 5 million new housing units were added to the existing 20 million. In 2008, the real estate market began to decline rapidly, with home prices decline by a significant 8 percent that year. In the period 2007-2013, Spanish housing prices fell by 37%. Almost a million houses are built in Spain every year, more than Germany, France and England.

## Real estate debt

One of the main effects of this situation is the growth of household debt. Since the purchase of housing, whether for residence or investment, is usually done through mortgage loans, an increase in price means an increase in debt. Spanish debt tripled in less than ten years. In 1986, debt accounted for 34 percent of disposable income, in 1997 it was 52 percent, and in 2005 it was 105 percent. In 2006, a quarter of the population had debts with a maturity of more than 15 years. From 1990 to 2004, the average mortgage length increased from 12 to 25 years. The Bank of Spain reported that household savings were affected by debt in 2006. In fact, the Bank of Spain has warned every year about the high debt of Spanish households,

which it says has been unsustainable. At the end of 2006, private debt reached 832.289 billion euros, which was an increase of

53.18% compared to the previous year, and reached 1 trillion euros by the end of 2010. Construction industry.

Spanish Chamber of Commerce President, Javier Gómez Navarro said at an event organized by the Association of Financial Journalists that institutions will never recover 30 percent of the debt owed to the housing sector. According to the Bank of Spain, this debt amounted to 325,000 million euros in December 2009, 824. 96 million bad loans.

The President of the Chambers expressed regret that the Spanish financial system did not accept the impact of the crisis on their assets, and also the Bank of Spain confirmed that its responsibility rests with the entire financial sector:

"In Spain, it never wanted to recognize that the financial system was not in good shape, because that would have caused the banking sector to start recapitalization policies. But time is running out.

According to RR de Acuna & Asociados, a real estate consulting firm, more than half of the country's 67,000 developers can be classified as "zombies," with debts that exceed their assets and only have enough income to repay the interest on their loans.

**• New Zealand property bubble**

The real estate bubble in New Zealand is a significant national economic and social issue. Since the early 1990s, house prices in New Zealand have risen significantly faster than incomes, which puts increasing pressure on public housing providers as fewer households have access to housing on the private market. The property bubble has had significant effects on inequality in New Zealand, which now has one of the highest homelessness rates in the OECD and a long waiting list for public housing. Government policies since 2013 have attempted to examine the crisis, but have had limited effects in

reducing prices or increasing the supply of affordable housing. However, prices began to decline in 2022 in

response to intensification mortgage availability and increased supply. Some areas saw a drop of as much as 9% - albeit due to very high prices. Economist, Joseph Stieglitz defines a housing bubble as a period of speculative purchases, where investors are willing to pay a high price today because they believe it will be the same (or higher) tomorrow. A 2016 study found evidence of a bubble in New Zealand's housing market since 2003, which stopped in 2007 / 2008 with the effects of the global financial crisis. A second bubble appeared in Auckland in 2013 and by 2015 there were no significant spillway effects to other areas. However, from 2015 onwards, the fastest price growth occurred in smaller centers.

Housing in New Zealand has been heavily influenced by colonialism (early 19th century), pre-war government intervention, post-war government intervention and economic and financial reforms introduced since the 1980s. Although the indigenous Maori population traditionally lived communally, Pākehā residents, many of whom escaped the poor conditions of Victorian Britain-they created a tendency to prefer individual houses, each one built on a separate part of the land-A legendary quarter acre, in a similar way to the American white picket fence. New Zealand society as a whole, despite changing economic and environmental conditions, continues to dream of owning a home.

The local real estate sector promotes myths of upward mobility, and New Zealand politicians nurture the idea of a stable democracy rooted in property ownership.

In 1977, the Town and Planning Act was passed, which began to make it easier for NIMBYs"(not in my back yard)" to oppose new housing nearby and force downzoning.

In 1977, the Town and Planning Act was passed, which began to make it easier for NIMBYs to oppose new housing nearby and force

downzoning. This caused housing prices to increase by an average of 2% for each 1% increase in population between 1977-2018,

compared to 0.5% for each 1% increase in population between 1977-1938.

The fourth Labor government (elected in 1984) quickly introduced policies of economic deregulation, as a result of the great policies of the previous Prime Minister, Robert Muldoon, who put the country heavily in debt, investment in stocks increased rapidly, often done with little precision, the stock market crash of 1987 hit the New Zealand economy hard, with the New Zealand Stock Exchange (NZSE) down about 60% from its peak.

Many investors who lost heavily in the 1987 crash never returned to the stock market, instead, they chose the seemingly safer option of investing in real estate.

In 1989, Congress passed the Reserve Bank Act, which emphasized curbing inflation and interest rates, which in turn lowered borrowing costs for fixed assets such as houses. In the same year, tax exempts were abolished for pensions, insurance and other similar investments, but not for real estate. Two years later, the Resource Management Act (RMA) replaced a series of regional planning laws, including the Town and Planning Act. Some consider RMA as an obstacle to building affordable housing. Although the construction and sale of government houses has happened periodically since the beginning of government housing. During the 1990s it was sold unprecedented numbers without replacement. The number of public housing in the country reached 70,000 in 1991, when it began to be sold.

Alongside institutional reform in the housing sector, problems related to substandard construction, historical injustices and unmet needs of indigenous Maori, and persistent income inequality, the lack of affordable housing is a critical issue. Since the global financial crisis, the rapid growth of housing prices has created crisis and

housing has been a prominent issue on the political agenda since 2013. Despite a number of political interventions to deal with

the crisis, prices have continued to rise across the country. As shown below, real home prices nearly tripled between 2000 and 2018.

## Crisis

While housing prices have risen almost continuously since the early 1990s, it was until 2007 that the media began reporting an economic crisis. Nationwide, real estate prices rose by 80 percent between 2002 and 2008. Nominal prices in Auckland were 34% higher than their pre-crisis peak.

Since 2019, the average house price in New Zealand exceeded NZ$700,000, with average prices in the country's largest city, Auckland, exceeding $1,000,000 in several suburbs. The ratio between average house price and average annual household income rose from just over .03 in January 2002 to 27.6 in March 2017, with Auckland figures ranging from 4.0 to 9.81 respectively.

Since 2021, the average house price in New Zealand will exceed $1,000,000. In 2017, the Demographia think room ranked Auckland's housing market as the fourth largest housing market in the world after Hong Kong, Sydney and Vancouver with average housing prices rising from 4.6 times middle income in 2008 to 10 times in 2017. Another study conducted in 2016 reported that the average house price in Auckland had surpassed that of Sydney. That same year, the International Monetary Fund ranked New Zealand at the top of the Organization for Economic Cooperation and Development (OECD) housing affordability chart, and called for a tax on property speculation.

Multi-property owners in New Zealand are not subject to capital gains tax and can use negative equipping on their properties, making it an attractive investment option. However, potential home buyers

accuse real estate investors of crowding them outs. When the Tax Working Group reported its findings to Parliament in 2019, a

capital gains tax was among its recommendations, which was lost after not getting enough support from the parliament.

In late 2021, real estate data firm velocity reported that more than 22,100 homes were owned by "mega-owners" who owned more than 20 properties each, as part of a trend toward greater concentration of the housing market by investors.

## Regional dynamics

The housing price bubble first appeared in Auckland and subsequently spread to other parts of the country. The figure below shows the regional average housing price changes between 2014 and 2019.

## The social effects of the crisis

Unaffordable housing has had profound effects on New Zealand society. Between 1986 and 2013, home ownership fell from 74 percent to 65 percent. The latest statistics on homelessness, from the 2013 census, show that 1% of the population live in severe housing deprivation. Of this population, 71% live temporarily in overcrowded private homes, 19% in commercial homes or MARA, and 10% live on the street or in cars. Between 2017 and 2019, the waiting list for public housing doubled, reaching a recession 12,500 in August 2019. In 2018, a report found that emergency housing providers were turning away 80 to 90 percent of those seeking help.

The significant growth in property prices in recent decades has significantly affected the distribution of wealth in New Zealand. The 2019 National Business Review Rich List found that eight of the top 25 richest people made their money from real estate, and 16 of the 20 new additions to the list also got rich through real estate investing. Rising prices have been attributed to a variety of factors, including deregulation, immigration and politics, with considerable

debate over how to address the issue due to its large size relative to the economy.

The Loafers Lodge fire in May 2023, in which five people died and 20 were injured, brought further scrutiny to the effects of the housing crisis.

## Policy answers

Policies to address the housing affordability crisis include land use and planning regulations, public housing provision, property and investment laws, and financial regulations.

## Special housing areas

In 2013, the government approved the Law on Housing Agreements and Special Housing Areas in 2013 and introduced special residential areas (SHAs) to increase land supply in urban areas. In designated SHAs, developments larger than 14 dwellings were required to be allocated 10% of housing at » affordable« prices. Affordability was defined as 75% of the average home price in the area. or the price at which households earning up to 120 percent of average household income, do not spend more than 30% of gross income on rent or mortgage repayments. The research found that there is little evidence for the effectiveness of this policy to improve affordability. The law was not extended beyond 2019 after producing disappointing results.

Since 2016, a planned housing development by the Fletcher Building in a designated special housing area in Ihumātao has been opposed by protesters, who have set up a camp at the site. Opponents claimed the land was confiscated during the Waikato War in 1863, in violation of the Treaty of Waitangi. In 2017, the United Nations recommended that the New Zealand government review the designation of Ihumātao as a special housing area, drawing

attention to potential human rights violations. In 2019, after protesters were given evacuation notices and the police

presence intensified, the prime minister announced that there would be no progress in Ihomatao while the government tried to mediate a solution.

## Prohibition of foreign ownership

In August 2018, the New Zealand Parliament passed a law that prohibits non-resident foreigners from buying existing homes, which fulfilled the election promise of the New Zealand First party. This law allows non-residents to own up to 60% of the units in newly built apartment blocks. However, they are not allowed to buy existing houses. Immigration continued to be a topic of debate over housing affordability. The central bank and others cited immigration as a factor in housing prices. Annual net immigration was nearly 70,000 through 2017, compared with an average of 15,000 over the past 25 years. However, the Department for Business, Innovation and Employment rejected the emphasis, saying New Zealanders returning from overseas made up the majority of inflows and there was a need to allow "skilled migrants to increase housing supply. In 2016 Auckland was reported to have more than 33,000 "ghost" properties registered as non-residential, many believed to be owned by absentee foreigners"

## Kiwi Build

Kiwi Build, New Zealand Labor's flagship housing policy, proposed to provide 100,000 homes over ten years to address the affordability crisis. The plan was designed to boost housing supply by giving property developers more incentives to deliver affordable homes quickly. This included the Land for Housing program, which acquired vacant land on a pre-sale basis to developers, with the condition that 20% of the homes would be available for public housing and 40% would be "affordable" housing according to Kiwi Build criterias. The scheme also bought off-plan properties from

developers to sell to qualified buyers. The capacity of the construction sector to deliver Kiwi Build targets was identified. As

a challenge, the government introduced the Kiwi Build shortage list, which allowed creditable construction employers to speed up the immigration process for construction workers. Criticism of the policy shows Kiwi Build homes remain out of reach for many, with "affordable" properties costing more than NZ$500,000 in Auckland and NZ$300,000 to NZ$500,000 in the rest of the country. By September 2019, the scheme had delivered only 258 houses, Much less than the targets. The absorbance also revealed Kiwi Build homes were not attracting buyers and unsold houses are offered to the private market in some areas.

The National Policy Statement on Urban Development (NPS-UD)

in October 2019, to replace and extend NPS-UDC 2016, NPS-UD has the same objective as its predecessor, enabling growth in new areas by removing unnecessary restrictions which are targeted for high growth areas.

The discussion document included a set of requirements for councils, including:

New goals for future development strategies, to ensure coordinated growth and responsiveness to demand.

The possibility of growth through the intensification and development of the green field, in a way that contributes to a quality urban environment

Develop and maintain an evidence base on housing and land demand and prices

Ensuring coordination of planning across urban areas, taking into account iwi and hapū issues.

## Abolition of resource management law

In 2020, Labor party won a parliamentary majority. In 2021, the new government announced plans to repeal the Resource Management Act and replace it with three separate planning laws:

Natural and built environment law focuses on land use and environmental regulations

The Strategic Planning Act compiles laws on development

The Climate Change Adaptation Act focuses on managed retreat and its financing.

The changes to the law were announced by Environment Secretary, David Parker after a high-level independent review into the Resource Management Act in 2020 concluded that the law was failing in its purpose.

**Make reforms in March 2021**

Elimination of tax deduction on interest rate.

The limit on housing assistance for first home buyers was lifted.

Allocation of underlying credits (called Housing Acceleration Fund) for district councils.

Extending the Bright Line Test from five to ten years

The Department of the Treasury recommended that the Bright Line Test be extended from five years to twenty years, twice what was eventually implemented. Both the Inland Revenue and the Treasury urged the government not to revoke the interest rate deduction.

Later in the year, a bipartisan agreement on Medium Density Residential Standards (MDRS) was drawn up and signed by the Labor and National parties in Parliament to ease urban density laws. The new rules allow houses of up to three stores to be built in existing areas, without the need for resource consent. However, two years later, the National Party retreat of the agreement and claimed that their housing policy is "more ambitious and allows councils more discretion and flexibility.

## Tax reforms

### Capital yield tax

There is currently no capital yield tax on property investment in New Zealand. The Bright Line Test, introduced in 2015 and extended in 2018, aims to tax capital yield on real estate. However, the principal family home, real estate, or sold real estate through a relationship settlement is exempt.

In late 2017, the Labor government established the tax working group, an advisory group to consider improving the fairness and balance of the tax system, the group released its report in February 2019 recommending a capital yield tax, which applies to profits and most losses related to all types of land and improvements, except for the family's main house.

This tax applies to rentals and second homes, commercial properties, land and stocks. Following strong public and media debates, the government abandoned its plan to introduce capital yield tax due to lack of consensus in the government. Organization for Economic Co-operation and Development (OECD) and The International Monetary Fund (IMF) have issued several recommendations for the approval of capital yield tax.

### Land value tax

A land value tax has been proposed by a range of commentators, including Dr Arthur Grimes and Dr. Andrew Coleman, Dr. Ryan Greenaway-McGreevy, economist Shamobile Icoub and Bernard Hickey.

### Modification of land use

In September 2015, the New Zealand Productivity Commission published a comprehensive report on land use for housing, it was commissioned by the Government to review local council processes for the provision of land for housing, with a focus on areas of rapid

growth. According to this report, the insufficient supply of developable Brownfield land and green land has been one of the

main factors in the growth of housing prices between 2000 and 2015.

1. Abolition of restrictive planning controls in areas with excess capacity in existing infrastructure networks
2. More effective cost recovery of infrastructure costs
3. More use of cost-benefit analysis for land use laws
4. Giving more power to local urban development authorities (UDA) for housing development
5. If councils are unable to free up land, central government powers are released to intervene to ensure adequate development capacity (this was implemented through the 2016 National Policy Statement on Urban Development Capacity)

## Financial regulations

### Debt-to-income limit

In 2017, the Central Bank of New Zealand published a consultation paper on debt-to-income limits. In 2017, the Reserve Bank of New Zealand published a consultation paper on the debt-to-income limit as a tool to limit credit growth and reduce the risk of mortgage defaults during economic downturns. High levels of private debt are a significant macroeconomic risk. This reduces household consumption by channeling a large portion of income into debt and also makes households vulnerable to economic shocks.

## Potential effects of bubble bursting

According to investment manager, Brian Gaynor in 2012, a 10% drop in house prices would wipe $60 billion from New Zealanders' personal wealth, more than the losses caused by the stock market crash of 1987. Steve Kane, one of the few economists to predict the Great Recession, warned in mid-2017 that New Zealand would be

one of the countries to experience a collapse of private debt, including housing, and that "the bubble will burst in the future.

A report published by Goldman Sachs predicted that New Zealand had a 40 percent chance of a "housing failure" over the same period. Financial commentator Bernard Hickey has described New Zealand's property market as "too big to fail", and supports a deposit insurance scheme in the event of a property crash.

The Central Bank of New Zealand has estimated that the total value of mortgages has grown from less than $60 billion in 1999 to more than $220 billion in 2016.

In April 2021, the total value of mortgage loans was estimated at $9.307 billion, an increase of more than $30 billion over the previous 12-month period.

• Lebanon's housing bubble

The Lebanese housing bubble refers to an economic bubble that affects almost the entire Lebanese real estate sector, with property prices increasing exponentially since 2005 (an average increase of 5 times since February 2010), while production The gross domestic product has only increased by 52%.

## The current state of the bubble

Lebanon's GDP per capita is about US$13,000 (after taxes), while Lebanese working abroad earn an average of about US$30,000 per year (after taxes). A decent housing situation far from Beirut can cost around $150,000, a decent housing in the suburbs of Beirut can easily cost 4 times that amount, while decent housing in central Beirut can cost millions. As housing prices are constantly rising, many Lebanese and other investors buy houses (through mortgages) to resell them later (to other potential investors) at inflated prices. This strategy, as well as other deceptive strategies of real estate consultants, made many Lebanese both inside and outside Lebanon unable to buy real estate in Lebanon. In addition, the increase in housing prices leads to an increase in rental prices, further increase in inflation and a decrease in the real income of Lebanese living in

Lebanon. Other Lebanese who are final buyers (i.e. not thinking of reselling their home) are committing to long-term and high-risk

loans to repay their mortgages. Since banks only pay 60% of the house price, the banking system in Lebanon can reduce the price of housing by 40% if the bubble bursts. This increases the impact of the bubble bursting on the buyer, as sometimes 40% can be the life savings of the individual as well as his family.

House prices in decent areas have risen so much that they are now much higher than in luxury cities in countries that enjoy political stability and much higher GDP per capita. Although the Governor of the Bank of Lebanon claims that this demand is "real", there does not seem to be any real logic behind the continued sharp rise in house prices.

Despite the decline in local demand, high real estate prices persist for a number of reasons. First, Lebanon's real estate sector currently faces real demand and not much speculative demand. In fact, Lebanese residents account for the largest share of demand for property. Hence, Lebanon's real estate sector does not involve the high risk associated with speculative pressures that were witnessed in other countries during the global financial crisis. This explains the stickiness of real estate prices, which was not adjusted downward due to the continued movement of demand by end users despite the slowdown in the overall real estate market. Second, land shortages and the increasing construction of luxury residences are putting upward pressure on property prices. Third, the increase in demand for real estate by displaced Syrian nationals plays an important role in compensating for the decline in local demand and hence it helps the adhesion of the real estate prices more. In order to understand the difference in the evolution of real estate demand, it is important to study the evolution of the average value of each real estate transaction. This amount has gradually increased during the period of 2008-2013. The largest increase was recorded in the Matn area, where the average value rose 3.107 percent over the six-year

period and reaching $213,584 in 2013. At the same time, the average value of each transaction in the Beirut region increased by 5.69% in the same reporting period, reaching US$499,948 in 2013.

Baabda and Kaservan also saw an increase in the average value of real estate transactions, which reached 121,913 dollars and 144,711 US dollars, respectively.

There are no official and reliable statistics in Lebanon that would allow such an objective determination. While GDP numbers are widely available-US$13,200 (2009 est.)-there is no reliable indicator of real estate prices. There are also no current surveys of housing quality in Lebanon that can be used to determine the intrinsic values of homes. The lack of reliable data is reflected in the housing price discussions in the Lebanese press, where different price increases are mentioned in the same articles.

Therefore, the debate about the "Lebanese housing bubble" relies on subjective assessments of the observed evolution of real estate prices relative to their intrinsic values.

Furthermore, there is no reliable data to estimate the average income of Lebanese working abroad, which complicates the analysis of possible causes of the housing bubble.

# Chapter Five

## Macroeconomics

Macroeconomics is a branch of economics that deals with the efficiency, structure, behavior and decision-making of the economy at the macro level; This includes the national, regional and global economy. Macroeconomics and microeconomics are a pair of economic divisions coined by Regner Frisch and are the most general division in economics. Compared to macroeconomics, microeconomics is a branch of economics that studies the behavior of individuals and firms in decisions and actions among these individuals and firms in carefully defined markets.

Macroeconomics studies cumulative indicators such as gross domestic product, unemployment rate, national income, price index and the interrelationship between different sectors of the economy in order to better understand the performance of the economy. Macroeconomists develop economic models to explain the relationship between national income, production, consumption, unemployment, inflation, savings, investment, international trade, and international finance.

Although macroeconomics is a broad field of study, there are two major areas of research that is the symbol of discipline: Trying to understand the cause and consequences of short-term fluctuation in

national income (business cycle), and trying to understand the determining factor of economic growth (increase in national income) in the long term. Macroeconomic models and their forecasts are used by governments to help develop and evaluate economic policies.

## Macroeconomic objectives

Macroeconomics is the study of the economy behavior in a general view. Although the goals of macroeconomics in the past and today have had major differences, especially in terms of policies and government involvement in economic affairs but their generality has not changed much in the society. The most important goals of macroeconomics are to achieve or approach the followings:

1. Full employment: a situation in which involuntary unemployment (typically in the case of human labor) does not exist or is at a minimum possible and acceptable.
2. Price stability: It means that the economic policy makers with their policies and decisions try to act with appropriate measures so that the prices (prices of goods, services, production factors) do not fluctuate much.
3. Fair distribution of income in the society: All members of the society should not have access to facilities with discrimination and differentiation, so that the existing gaps between the income deciles of the country's population are reduced or at least not increased.
4. Continuous economic growth and development: which is the ultimate material and spiritual goal of all economies in the world

## Basic concepts of macroeconomics

Macroeconomics includes various concepts and variables, however, three main topics are proposed for macroeconomic research.

Usually, macroeconomic theories relate phenomena such as production, unemployment and inflation. Apart from the discussion

of macroeconomic theories, these topics are also important for all economic agents such as workers, consumers and producers.

**production and income**

The total amount of everything that a country produces in a certain period of time is called national production. Everything that is produced and sold, generates an equal amount of income, so production and income are often considered equivalent and often interchangeable. Production can be measured as total income or it can be expressed in terms of production and be measured as the total value of final goods and services or total value added in the economy. Macroeconomic output is usually measured by gross domestic product (GDP) or another national account. In the study of economic growth, economists are interested in long-term increases in output. Advances in technology, the accumulation of machinery and other types of capital, and better education and human capital will increase the output of the economy over time. However, production does not always grow continuously, business cycles cause a drop in national production, which this situation is called a recession. Economists are looking for those types of macroeconomic policies that prevent the economy from slipping into recessions and lead the economy to long-term growth.

**Unemployment**

Using US data, this graph shows the relationship between unemployment and economic growth as expressed by Okun's law. This relationship proves periodic unemployment. Economic growth leads to lower unemployment rates.

The amount of unemployment in an economy is measured by the unemployment rate. The unemployment rate is the percentage of unemployed workers in the total labor forces. The unemployment rate in the labor force includes people who are willing to find a job. People who are retired, people in training or people who have

despaired of finding a job due to lack of jobs are not included in the unemployed people.

Unemployment itself has several types, each of which may be caused by different reasons.

- Classical unemployment theory states that unemployment occurs when wages are so high for employers that they do not hire more workers. Another modern economic theory states that increased wages actually reduce unemployment by creating more consumer demand. According to these new theories, unemployment occurs due to a decrease in demand for goods and services produced by workers and also these theories state that high wages cause unemployment only in markets where the marginal profit is very low and in markets that cannot bear the increase in the price of goods and services. In line with the classical unemployment theory, frictional unemployment occurs when there are suitable vacant jobs for the worker, but due to the time it takes to search and find these jobs, the economy moves towards a period of unemployment.
- Structural unemployment includes a range of reasons for unemployment, such as a mismatch between the skills of workers and the skills required for work. Much structural unemployment occurs when the economy is in transition and industries and workers find that their previous skill sets are no longer in demand by the economy. Structural unemployment is similar to frictional unemployment in the sense that both reflect the problem of not synchronizing and connecting workers with vacant job positions, but structural unemployment covers the time needed to learn new skills plus the time of the short-term search process.
- While some types of unemployment may occur regardless of the state of the economy, periodically unemployment occurs when growth stops moving. Okun's law shows the empirical relationship between unemployment and economic growth. The

original version of Okun's law shows that a 3% increase in output leads to a 1% decrease in unemployment.

**Inflation and falling prices**

Inflation is an increase in the general level of prices in the entire economy. When prices decrease, the phenomenon of price reduction occurs. Economists calculate these changes by the price index. Inflation occurs when the economy becomes too active and grows too fast. In the same way, a slowdown in the economy causes a decrease in prices.

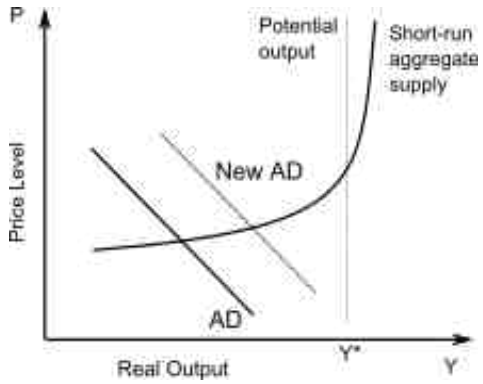
Central banks, the controllers of the country's money supply, try to prevent changes in the prices level through monetary policies. An increase in interest rates or a decrease in the money supply in the economy leads to a decrease in inflation. Inflation increases uncertainties and other negative consequences for the economy, instead, recession and price reductions decrease the production of the economy.

Central banks try to stabilize prices to protect the economy from negative consequences.

The change in the price level is the result of several factors. The quantity theory of money states that changes in the price level are directly related to changes in the money supply. Most economists believe that this relationship explains the long-term changes in the price level. Short-term fluctuations are often related to financial factors, but changes in aggregate demand and supply can affect price levels. Short-term fluctuations are often related to financial factors, but changes in aggregate demand and supply can affect price levels. For example, a decrease in demand due to an economic crisis can lead to a recession and lower prices. A negative shock to the economy's supply, such as the oil crisis, causes a decrease in total supply and inflation.

## Economic models

### Aggregate Demand & Supply




The conventional AS-AD diagram shows the movement in the aggregate demand curve as well as the inelasticity of long term supply.

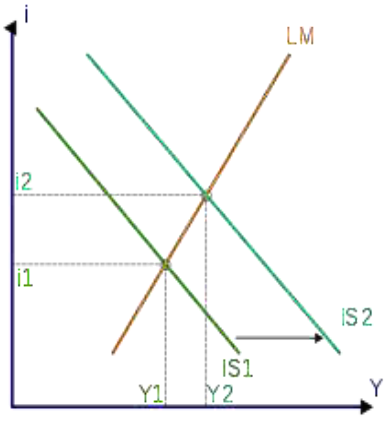
The AD-AS model is a standard model used by textbooks and academic sources to explain macroeconomics. This model represents the real price and production level that balances total demand and supply. The aggregate demand curve has a negative slope, which means that more demand for the production is done at lower prices. The negative slope is the result of several effects: The Pigou effect, or the real equilibrium effect, states that when real prices fall, as a result of increasing consumer demand for goods, real welfare increases. The Keynes effect, or interest rate effect, which states that when prices fall, the demand for money falls, causing interest rates to decline and increase borrowing for investment and consumption؛ and the net export effect, which states that when prices rise, domestic goods become relatively more expensive for foreign consumers, causing a decrease in exports.

In the conventional Keynesian use of the AS-AD model, the aggregate supply curve is horizontal at low levels of output. And it

gradually becomes inelastic as it approaches the point of potential production that is related to full employment. Since the economy cannot produce beyond the potential production. Any expansion in aggregate demand leads to a higher level of prices rather than a higher level of output.

The AD-AS diagram can model a variety of macroeconomic phenomena, including inflation. Changes in the level of factors other than price or determining factors cause changes in aggregate demand and shift the entire aggregate demand curve. An inflationary gap exists when the demand exceeds the supply for goods and demand pressure occurs, leading to an upward movement of the demand curve and a higher price level. When the economy faces higher costs, inflation occurs due to cost pressure, which causes the demand curve to move up and a higher level of price. The AS-AD diagram is widely used as a teaching tool for modeling the various effects of macroeconomic policies.

**IS–LM**




In this example of the is-lm diagram, the IS curve has moved to the right, causing the interest rate to rise and also the real GDP to increase.

The IS-LM model represents different combinations of interest rates and output that ensure equilibrium in the money market and commodity market. The goods market is represented by the balance

in investment and saving (IS), and the money market is represented by the balance between money supply and liquidity preferences. The IS curve is the locus of points where an investment is obtained at a given interest rate, and this amount is equal to the savings obtained at the given production level.

The slope of the IS curve is negative because production and interest rates in the goods market have an inverse relationship:

As output increases, more money is saved, which means that interest rates must be lower for investment to increase sufficiently to match savings. The slope of the LM curve is positive because interest rates and output in the money market have a positive relationship: as output increases, the demand for money increases, leading to an increase in interest rates. The IS-LM model is often used to show the effects of monetary and fiscal policies. Textbooks often use the IS-LM model, but this model does not capture the complexities of modern macroeconomic models, however, this model depicts the same relationships as other models.

## Growth models

Robert Solow's neoclassical growth model has become a common textbook model for explaining long-term economic growth. The model is introduced with the production function and the national production is introduced as the product of two factors: capital and labor. The Solow model assumes that labor and capital utilization rates are constant, without the fluctuations typically seen in unemployment and capital utilization in business cycles. Growth in output, or economic growth, occurs for only a few reasons: an increase in the capital stock, more population, or technological progress that leads to more output (total factor productivity). Growth in the savings rate leads to a temporary increase as the economy creates more capital that adds to output. Although finally the rate of depreciation limits the development of capital The

savings are spent on replacement will be depreciable capital and no more savings are left for development in capital. Solow's model

states that economic growth in terms of the amount of production per unit of capital depends only on technological progress that increases production.

In the 80s and 90s, the theory of endogenous growth rose to compete with the theory of neoclassical growth. This set of models explains economic growth with other factors such as increasing returns to scale of capital and learning by doing, which are endogenously emphasized, instead of the technological improvement of extroversion which is emphasized in Solow's growth model.

## Macroeconomic policies

Macroeconomic policies are usually implemented by two instruments: fiscal policies and monetary policies. Each of these two policies are used to stabilize the economy. This means that the economy will increase to a level of GDP that leads to the formation of full employment. Macroeconomic policies focus on limiting the effects of business cycles to achieve economic goals such as price stability, full employment, and growth.

### Monetary policies

Central banks implement monetary policies by supplying money and taking help from several mechanisms. For example, the central bank works by issuing money to buy bonds (or other assets), which increases the money supply and lowers interest rates or in restrictive monetary policies, banks sell bonds and take money out of circulation. Usually, policies do not directly target the money supply.

Central banks are constantly shifting the money supply in order to achieve a fixed interest rate. In contrast, some central banks focus on targeting the inflation rate and allow interest rates to fluctuate.

Central banks generally try to achieve more output without causing too much inflation by implementing expansionary policies.

Conventional monetary policy is ineffective in times like liquidity trap. When interest rates and inflation are close to zero, central banks cannot implement expansionary policies with conventional means.

Central banks can use unconventional tools such as quantitative easing to boost output. In order to implement quantitative easing policy, central banks can buy other assets such as bonds of large companies, shares, and other guarantees instead of buying government bonds. This creates lower interest rates for a wider class of assets beyond government bonds. In another example for an unconventional monetary instrument, we can refer to the bond rotation plan which efforts have been made by the United States Federal Reserve to do it. In times like liquidity trap when central banks are not able to reduce the current interest rate. The Federal Reserve lowered long-term interest rates by buying long-term bonds and selling short-term bonds, creating a flat yield curve.

**Financial policies**

Fiscal policy is the use of government revenue and expenditure as a means to influence the economy. Examples of these tools are spending, taxes and debt. For example, if the economy is producing less than potential output, government spending can be used to utilize unused resources and improve production. Of course, government spending should not be used to eliminate the entire production gap. There is an incremental effect that increases the impact of government spending. For example, when the government spends money on bridge construction, not only does the added value of bridge construction add to production, but it also allows bridge workers to increase consumption and investment, which closes the output gap.

Fiscal policies may be constrained by the forced substitution effect (crowding effect). When the government undertakes projects and

costs for them, it limits the available resources for the private sector. The compensatory effect occurs when government spending

simply replaces private sector production instead of adding more production to the economy. The offset effect also occurs when the government raises interest rates, which restricts investment. Advocates of fiscal stimulus claim that the substitution effect is not a concern in times of recession. Because large amounts of resources remain unused and interest rates are low. Fiscal policies can be implemented by automatic stabilizers. Automatic stabilizers do not suffer from the interruption problem of precautionary fiscal policies. Automatic stabilizers use conventional financial mechanisms, but their most effective time is when the economy is in recession: costs for unemployment benefits automatically increase when unemployment increases and in a progressive income tax system, the effective tax rate is automatically lowered when incomes fall.

**Comparison**

Economists mostly preferred monetary policy over fiscal policy because it has 2 main advantages. First, monetary policy is generally implemented by central banks that act independently, in contrast to financial policies that are controlled by political institutions. Central banks are less interested in making decisions based on political objectives. Second, monetary policy has a shorter internal and external interruption than fiscal policies. Central banks can quickly make decisions and implement their decisions while precautionary financial policies take time to be approved and implemented.

## Development

### Origin

In the beginning, macroeconomics included two basic topics: business cycle theory and monetary theory. The quantity theory of money was particularly popular before World War II. It took different

forms, especially the following version, which is the result of Irving Fisher's work: in a particular conception of the quantity

theory, the velocity of money circulation (V) and the quantity of goods produced (Q) should be constant, consequently, any increase in the money supply (M) directly leads to a growth in the price level (P). The quantity theory of money was the main part of the classical economic theory that prevailed in the early 20th century.

**Austrian school**

The book of Ludwig von Mises, The Theory of Money and Credit, which was published in 1912, was one of the first books of the Austrian school to examine and theorize on macroeconomic issues.

**Keynes and his followers**

Macroeconomics, at least in its modern form, began with the publication of John Maynard Keynes' book called The General Theory of Employment, Interest, and Money. When the Great Depression form, classical economists had trouble explaining how goods went unsold and workers remained unemployed. In the classical theory, prices and wages fall so low that the market is emptied, that is, all workers are employed and goods are sold. Keynes proposed a new economic theory that explained why markets were unlikely to empty. This theory evolved (at the end of the 20th century) into the economic school known as Keynesian economics. It is also known as Keynesism and Keynesian theory.

In Keynes's theory, the quantity of money theory is rejected because people and businesses want to hold onto their cash in tough economic times - the phenomenon that Keynes describes in terms of liquidity preferences. Keynes goes on to explain how the cumulative effect multiplies a small reduction in consumption or investment and causes deterioration in the economy. Keynes also points out that the uncertainty of labor and animal motives play a role in the economy. The generation that followed Keynes combined general theory macroeconomics with neoclassical microeconomics to create a neoclassical synthesis. In the 1950s, most economists accepted the synthesized theory of macroeconomics. Economists such as Paul

Samuelson, Franco Modigliani, James Tobin, and Robert Solow developed formal

Keynesian models and introduced formal theories of consumption, investment, and money demand, making the Keynesian framework more expressive and transparent.

**Monetarism**

Milton Friedman updated the quantity theory of money to include the role of money demand. He claimed that the role of money in the economy was sufficient to explain the Great Depression, and there was no need for directional explanations of aggregate demand. Friedman also claimed that monetary policies are much more effective than fiscal policies. Of course, Friedman doubted the government's ability to fine adjustment of the economy through monetary policies. Friedman believed in the policy of sustainable growth in the money supply instead of frequent interventions in the money supply.

Friedman also challenged the relationship between unemployment and inflation in the Phillips curve. Friedman and Edmund Phelps (who was not a monetarist) proposed a modified version of the Phillips curve that eliminated the possibility of a long-run stable movement between inflation and unemployment. Friedman and Phelps defended their model when the oil shock of the 1970s created massive unemployment and inflation. Monetarism was particularly effective in the early 1980s. But it lost popularity when central banks found it difficult to target the money supply instead of interest rates, which was one of the recommendations of monetarists. Also, in the field of politics, monetarism lost its popularity when central banks began to create recessions to reduce inflation.

**New classic**

Neoclassical macroeconomics strongly challenged the Keynesian school after its foundation. A central development in neoclassical thought occurred when Robert Lucas introduced rational expectations to macroeconomics. Prior to Lucas, economists generally used

adaptive expectations in the sense that economic agents look at the recent past and make decisions about the future.

But in rational expectations, it is assumed that economic agents act more complex. A consumer does not simply predict inflation at 2% because the average inflation in the past few years has been 2%, but he pays attention to the current monetary policy and the economic situation and makes an informed prediction. When neoclassical economists added rational expectations to their models, they demonstrated the limited impact of monetary policies.

Lucas also made effective criticisms to Keynes' empirical models. Lucas criticizes predictive models based on empirical relationships and points out that such models produce the same results even as basic models that work on variable data. He is in favor of models based on fundamental economic theories, which should be structurally correct and appropriate as economic variables. According to Lucas's critical essay, neoclassical economists led by Edward Prescott and Finn Kydland created the real business cycle (RBC) macroeconomic model.

(RBC) models are created by integrating fundamental equations derived from neoclassical macroeconomics. In order to create fluctuations in the macro economy, RBC models explain recessions and unemployment by changes in technology, rather than changes in commodity and money markets. Critics of RBC models clearly argue that money plays an important role in the economy and the idea that a recoil in technology can explain the current recession is implausible. However, technological shocks are more prominent than countless possible shocks that enter the system and it can be modeled. Despite the questions raised about the theories behind RBC models, they have clearly been able to be effective in the methodology of economics.

**The response of new kinesins**

By focusing on developing micro-oriented models as well as aligning themselves with rational expectations, neoclassical economists first responded to the neoclassical school and secondly,

they got rid of Lucas' criticism. Stanley Fischer and John Taylor made early efforts in this area by showing that fiscal policy is

effective even in rational expectations models when contracts are locked due to workers' wages. Other Neo-Keynesian economists such as Olivier Blanchard, Julio Rotenberg, Gregory Mankiw, David Romer, and Michael Woodford extended earlier efforts and findings, also proving that inflexible wages and prices lead to monetary and fiscal policy having a real effect.

Like classical models, neoclassical models also believe that prices should be fully regulated and that monetary policy should only lead to changes in prices. Neo-Keynesian models investigated the sources of sticky prices and wages due to imperfect competition. Those in which price regulation does not occur, but monetary policy is allowed to affect quantity rather than price.

In the late 1990s, economists reached a rough consensus. The formal rigor of Neo- Keynesian theory was integrated with rational expectations and RBC methodology. The formal hardness of Neo-Keynesian theory was integrated with rational expectations and RBC methodology. And the result was dynamic stochastic general equilibrium (DSGE) models. The fusion of elements was dubbed from various schools of Neoclassical synthesis. Today, these models are used by central banks and are a major part of contemporary macroeconomics.

## Investigating the effect of housing market fluctuations on the macro economy

Economists have been looking for the reasons for the formation of business cycles for years. So far, different reasons have been given for the formation of such cycles. Factors such as productivity shocks, monetary shocks and many other factors have been introduced as the causes of such cycles. But in spite of all the efforts made, the issue of the formation of business cycles is still relatively unknown. The occurrence of recent financial crises in developing countries showed that the existing theories are not able to identify

the reasons for the emergence of business cycles. Because these theories could not predict the 2007 American financial crisis. After

the occurrence of this crisis, new studies were conducted in the field of business cycles, which paid special attention to the housing sector. The reason was that the financial crisis of the United States of America started from the housing sector and quickly spread to other markets. The country's gross domestic product dropped by nearly 6% annually in the last quarter of 2008 and the first quarter of 2009, and the unemployment rate reached 1.10% in 2009. Such an important impact on the economy from the housing market caused the housing sector to enter economic models as an influential sector in the post-crisis period. Previously, it was assumed that the housing market was only affected by the economy, and they did not imagine a determinant role for it in the macroeconomics. But the events of the aforementioned crisis showed that the housing market can be one of the factors affecting business cycles.

The impact of the housing sector on the economy seems to be not unique to the American economy and has such a position in other economies as well. The empirical evidence of Iran's economy also proves such a claim.

Mehregan (2013) has shown that housing is one of the sectors of Iran's economy that has the most previous and subsequent relationships with other sectors of the economy. And due to the significant contribution of this sector in the GDP, fluctuations in demand in this sector can have a significant impact on the country's economy.

According to what was mentioned, in order to be able to model the behavior of business cycles (Iran), it is necessary to gain sufficient knowledge of the role of the housing market in the economy.

Housing market in addition to its contribution to the economy and GDP and can directly affect the economy, the housing market can also affect business cycles through three other main channels. The first channel is the channel that is famous to wealth effect; The second channel is known as the collateral effect and the third

channel is the risk taking channel. Each of these channels is explained below.

## Wealth effect

Price changes in the housing market through wealth effect can affect the real sector of the economy. According to the theory of the wealth effect, when the prices in the housing market increase, the property owners face an increase in wealth. Since people's consumption, according to the life cycle consumption theory, is also a function of their wealth in addition to their income, with the increase in housing prices, their consumption will also increase. An increase in consumption also brings an increase in total demand, an increase in production and economic growth. The opposite of this situation also happens when housing prices decrease. When the price of housing decreases, the owners of this property feel a decrease in wealth and reduce their consumption, and in this way they affect business cycles.

## Collateral effect

Bernanke (2007) states that the effect of changes in housing value will be greater than the effect of wealth due to the existence of collateral effect. Because the change in the net wealth of the home owners also affects the excess cost of external financing and credit costs. The excess cost of external financing is a gap that reflects the additional cost that agencies have to pay for external financing, for example through equity or debt markets, compared to internal financing, for example through non-distribution (profits). This gap exists when agencies cannot provide full collateral for foreign financing to banks. When there is full collateral, even in the worst case, the expected income of the project will be enough to enable the full payment of the loan. In other words, full collateral means that the agency that is taking the loan compared to the size of the project (loan), have

enough internal funds, that even if the project fails, the bank can receive its loan in full from these sources and

giving a loan does not have any risk for him. What has been said means that if an agency does not have enough internal resources to provide collateral, external financing will be more expensive for it. In such a situation, it is expected that the decrease in the value of assets such as housing will cause an increase in the excess cost of external financing, and as a result, reduce the amount of credit available in the entire economy and bring about a decrease in economic activities. One of the factors that causes a change in the size of the excess cost of external financing is the balance sheet channel. The balance sheet channel states that the size of the excess cost of external financing should have an inverse relationship with the borrower's net wealth. For example, the higher the borrower's net wealth, the higher the probability that the person will make a large part of his investment with internal resources. Also, borrowers who have more net worth if they use foreign financing can provide the lender with more valid and complete collaterals in exchange for guaranteeing the received loan. This issue makes lenders face less risk and as a result spend less money to deal with issues such as moral hazard and … Hence, the costs of external financing will be lower for economic factors who have more net wealth. Since the financial situation of the borrowers affects the excess cost of external financing and then the terms of receiving loans and credits, changes in the quality of the borrower's balance sheet can similarly affect its investment decisions and expenses. Housing is one of the most important collaterals that provided by agencies to banks to receive loans. When the value of housing decreases, the balance sheet of agencies is also changed and the excess cost of external financing increases. An increase in the excess cost of external financing also brings a decrease in credits provided by banks. The reduction in credits also changes the level of investment and consumption and affects the total demand. Since one of the forces affecting the market

is demand, a decrease in total demand will result in a decrease in equilibrium production and economic growth.

## Risk taking effect

Another channel through which the housing market can affect the real sector of the economy is the risk-taking channel of banks. The financial crisis that occurred in 2008 in the United States of America and many other industrialized countries showed that the greater risk-taking of banks in this period was one of the most important factors in the formation of the crisis. One of the factors that caused banks to take more risks in this period was the increase in the price of assets such as housing. The increase in housing prices, in addition to affecting the balance sheets of agencies, can also affect the balance sheets of banks.

An important part of the bank's assets are usually the assets related to the housing sector. Banks usually grant loans for which they receive housing collateral or either invest in the construction sector or directly invest in this market by buying housing. The increase in housing prices, in addition to improving the asset side of the banks' balance sheets, also changes the banks' assessment of bankruptcy risk and losses. In the periods when housing prices increase, usually the adverse risk also decreases; this issue makes the evaluation criteria show the risk of bankruptcy and loss less than they actually are, and banks show more risk appetite. Accepting more risk by banks means accepting more deposits and increasing financial leverage and granting loans to natural and legal persons with high risk, which previously, due to lower risk appetite, the bank was not willing to grant loans to these persons, it causes more availability of credit in the economy. Naturally, the availability of more credit leads to an increase in investment and consumption and an increase in economic activities.

## conducted Studies

As mentioned earlier, attention to the housing market and its role in the formation of business cycles in economic studies became more prominent after the financial crisis of 2007. Of course, even before

the financial crisis, there are a limited number of studies that have discussed the role of the housing market in the formation of business cycles. Below, these studies are mentioned first, and then the studies conducted after the financial crisis are discussed.

Bin Habib et al. (1991) investigated the role of the housing market in the macroeconomics by including the housing sector in the model of real business cycles. The results of this study show that including the housing sector in the modeling significantly improves the explanatory power of the standard model of real business cycles.

McGrattan et al. (1997) investigated the role of housing market in business cycles in a study using stochastic dynamic general equilibrium method. The results of the study indicate that the housing sector has a significant impact on the formation of business cycles. In this study, researchers have also included financial variables in the modeling and modeled the effect of a simple financial policy such as changing taxes. The results show that adding the housing sector to the general equilibrium model leads to different results regarding the effect of taxes on the economy compared to when the housing market does not exist in the model. Therefore, it is necessary to pay attention to this part in the modeling of business cycles.

Iacoviello (2005) in a research titled housing prices, limits on receiving loans and monetary policy in business cycles, examines the position of the housing market in the monetary transmission mechanism and its effect on business cycles. By considering the housing market in a general equilibrium model and applying the condition of receiving a loan, Yakovilo examines the position of the housing market in the monetary transmission mechanism. In this study, in addition to housing collateral, he also adds nominal debt to the model. This stipulation is actually derived from an empirical observation that most debt contracts are concluded nominally and so changes in inflation can affect people's real debt and wealth. The

results of his study indicate that demand shocks changed housing prices, and the general level of nominal prices in one direction, and

over time, its intensity increases and becomes more widespread. According to the obtained results, the financial accelerator[1] does not work in the same way. Nominal debt reduces the effect of supply shocks and reduces the fluctuations of the economy under the interest rate control regime. But on the other hand, the effect of housing market collateral significantly improves the overall demand response to housing sector shocks. Also, nominal debt improves the slow response of production to inflationary shocks. The general result of this research is that the housing market plays an important role in the monetary transmission mechanism and is one of the important factors on business cycles. Limmer (2007) in his study has tried statistically to evaluate the role of the housing market in the formation of business cycles. The results of this study show that the housing market among the effective factors has the greatest impact on business cycles. The researchers' findings indicate that although in normal economic periods, the role of the housing market was not very prominent. However, in the 8 recessions that occurred in the American economy after World War II, the housing sector had 26 shares in the weakening of the economy, compared to other effective factors, it has had the greatest impact on economic stagnation.

In their study, Good hart and Hofmann (2008) investigated the relationship between money, credits, housing prices and the general level of economic activities. The sample used in this research is 17 industrialized countries of the world, and the panel self-explanatory method was used to estimate the research model during the period (1970-2006). The results indicate that when the housing market is in a period of prosperity, the effect of monetary and credit shocks on macroeconomic variables is greater. In other words, the housing

1 There is a rich theoretical literature in which economists have shown that the endogenous changes that occur in the balance sheet of companies in the same direction as

the business cycles of the economy can cause the strengthening and expansion of business cycles. This phenomenon is called Financial Accelerator. In fact, the financial accelerator indicates that financial markets can amplify a negative shock to the macro economy

market plays an effective role in the money transfer mechanism, which is known as the credit mechanism of monetary policy and was explained earlier in the theoretical foundations section.

In a study, Ferrara and Koopman (2010) investigated the common cycles of the housing market and total economic activities in the European Union. In this research, researchers have used multiple variable unobserved components model to investigate the relationship between housing market cycles and business cycles. The relationship between housing market cycles and business cycles has been investigated for four countries: Germany, France, Italy and Spain. The research results indicate that there is a strong relationship between business cycles and housing market cycles in the three countries of Italy, France and Spain.

In their study, Iacoviello and Neri (2010) investigated the sources and outcomes of housing market shocks. In this study, the researchers designed a stochastic dynamic general equilibrium model through which they investigated the interrelationship between the housing market and the macroeconomics. The results of this research indicate that the slow growth of technology in the housing sector explains a major part of the upward trend of the housing market in the last 40 years in the economy of the United States of America. In business cycles, demand and technology shocks explain about a quarter of housing price fluctuations and investment in the housing sector. Monetary factors also explain less than 20% of housing market fluctuations. Of course, the share of monetary totals has increased in the years after 2000 and monetary variables explain the cycles created in the housing market to a greater extent. The results of this research also show that the housing market has a significant role on the business cycles of the American economy. Of course, this role takes place more through the consumption channel than through the investment channel.

Cesa-Bianchi (2013) evaluates the effects of changes in demand in the housing market on the real sector of the economy in a global context. He uses the Global Vector Auto Regressive(GVAR(

method for this purpose. This method provides the possibility of examining the relationship between variables and between countries in a global format. The countries examined in this research are a collection of emerging and developed countries. The results of this study show that demand's changes in the housing market of the United States of America have a significant impact on economic activities in developed countries. But there is no such relationship between the US housing market and emerging countries. The results of this research also indicate that simultaneous demand shocks in the housing market of developed countries can strengthen each other's effect and cause a deep and long recession in these countries. Kidland et al. (2016) state that there is sufficient evidence to accept that investment changes in the US housing market happens before changes in GDP. The results of this research show that such a model is true only for the American and Canadian economies, and in the case of other developed countries, the results are consistent, but slightly different. In these countries, there is only a simultaneous relationship between the investment variable in the housing market and GDP. To justify this, researchers state that the construction time in these countries is longer compared to the United States, and therefore there is a simultaneous relationship between GDP and investment in the housing sector. If we consider the number of construction starts instead of investment in the housing sector, in all countries there will be a priority relationship between the housing market and GDP

. Unfortunately, there are not many domestic studies that examine the relationship between the housing market and business cycles. Below are the limited studies in which this issue has been investigated. Beheshti and Zenouzi (2008) in a study examine the monetary transmission mechanism and the role of the housing market in this mechanism. In this study, which was conducted for Iran's economy and using seasonal data from 1988 to 2006, the

researchers used a structural self-explanatory (SVAR) model. The results of the study indicate that the shock of the expansionary

monetary policy through the liquidity shock has a significant and stable effect on housing prices. Housing prices also explain about 20% of changes in GDP; Therefore, the price of housing is an important intermediary in transferring monetary shocks to GDP fluctuations.

Tahsili (2013) evaluated the relationship between the housing market and business cycles in a research. In this research, the data of Iran's economy during the period of 1971 to 2009 have been used. The results of the Granger causality method indicate that there is no causal relationship between the variable of construction permits and total production. The results also confirm the causality of housing prices for total production and the causality of total production for other housing variables. The analysis of return points also shows that housing variables, apart from building permits, have a significant movement with total production. Also, investment in housing and housing prices are at the same time as total production, while housing production and employment in housing are delayed by two periods compared to total production.

Komijani and Haeri (2012) investigated the role of housing prices in the monetary transmission mechanism. This study was carried out for Iran's economy and using seasonal data between 1992 and 2008. Researchers have used the self- explanatory method as an econometric method. The results of this study show that housing prices can affect the effects of monetary shocks on consumer spending and thus play a role in the monetary policy transmission mechanism. The results also show that the reaction of real private consumption to a positive monetary impulse in the case where the housing price is endogenously included in the model is more than the case where the housing price break is included as an exogenous variable in the model. The results of most of the studies reviewed above indicate that the housing market is one of the most important factors affecting the formation of business cycles. This is true for both

foreign and domestic studies. Unfortunately, despite the special importance of the issue, few studies have been conducted in

the country about this issue. The conducted studies have not fully determined the role of the housing market in the formation of business cycles. The difference between the present study and previous domestic studies is that a random dynamic general equilibrium model will be used to examine the position of the housing market in the macroeconomics, which has not been used in any of the previous studies.

## Investigating the relationship between the housing sector and some macroeconomic variables

Developments in the housing sector play an essential role in intensifying the fluctuations of boom and recession of economic activities. Although the relationship between the fluctuations of this sector and the business cycle in the economy has been examined in several studies. But the importance of the housing sector and its relationship with macroeconomic variables, the extensive previous and subsequent links with other sectors and economic activities, the study of the relationship between this sector and other macroeconomic variables in different time scales shows more importance than ever. Since the Great Recession, many politicians and economists believe that the housing market plays a very important role in the economy of countries.

According to Kim's study (2004), the housing sector constitutes 30% of the world's wealth. Recently, there have been doubts about the fact that the causal relationship between housing and GDP and other macroeconomic variables does not change over time. In other words, a detailed examination of the causality between macroeconomic variables and the housing sector requires a methodology that is able to take into account the asymmetry between the aforementioned variables. One of the methods used for this purpose is the Markov Switching Vector Auto Regression Model (MS VAR). Although this method is able to test the causality

between GDP and housing over time, it also has limitations. First, it requires durable variables, secondly, it completely ignores the

frequency domain. If wavelet methodology is used instead of this method, there is no need to define the variables and there is no need to assume a linear relationship. In contrast to the time series methods, the wavelet method and especially the wavelet coherence can be a new horizon in investigating the causality of the housing sector and national production because different time horizons and frequencies are investigated at the same time. Therefore, the study of how the housing sector interacts with macroeconomic variables and especially national production can be interesting and beneficial for economic policy makers and economic researchers in the country. Therefore, this article looks for how these sectors move together in Iran's economy and analyze its fluctuations using the approach of economic physics and the wavelet coherence method.

The price of the housing sector can affect the economic growth through two channels. The first channel is the collateral channel. In other words, the increase in housing prices weakens the factor of lending restrictions, because the value of the financial collateral for obtaining a loan will increase, and as a result, it can affect economic growth through investment and consumption. The second channel is the wealth channel. In this way, an unexpected price shock in the housing sector will increase the wealth of households and as a result, economic growth will increase. According to these theories, it can be said that housing prices will be the cause of GDP.

Considering that the recent economic crisis started from the American housing sector, it once again turned the attention of economists to the issue of business cycles and how it is related to the fluctuations of the housing sector. For example, we can refer to the studies of Iacoviello (2005), Davis and Heathcote (2005) and Fisher (2007), who acknowledge the importance of the housing sector in the business cycle. Based on the pattern of business cycles, this article seeks to answer the question of whether the fluctuations of the housing sector, especially its price index, is a progression or

regression of business cycles. Many experimental studies have been conducted in America and Europe, and the overall result is vague

and unknown. On the other hand, there is a broad consensus based on that the housing sector is leading and the main reason for the economic strength of the United States in the mid-2000s was the boom in the housing sector. Also, studies that consider the price of the housing sector as a variable after business cycles include Sutton (2002) for England, Canada, Ireland, the Netherlands, Australia and the United States and Egert and Mihaljek (2007) for OECD countries who have reached the conclusion that GDP was an important factor in the observed price dynamics in the housing sector. Finally, Briscoe (2007) points out that the domestic asset market is very important for economic policy makers. When the housing market is booming, economic growth is increasing and inflation can be threatening. The bursting of this type of property bubble is one of the biggest threats that can easily bring a country into recession. However, a look at empirical studies shows that the relationship between housing prices and GDP and other macro variables seems to be somewhat vague and unknown.

For example, Englund and Ioannides (2004) by studying housing price dynamics in 15 OECD countries from 1970 to 1992 showed that there is weak evidence about housing price dynamics and economic growth and this relationship seems to be different among open economies. Also, Ortalo-Magné, and Rady (2004) by studying the annual data from 1970 to 2003 of the United States showed that there is a positive correlation between disposable income per capita and housing prices during the business cycle.

Iaquillo's (2004) study, using seasonal data from 1986 to 2002 in the United States, with the assumption that if the borrowing capacity of debtor families is tied to the value of their housing, the housing price should be represented by an Euler equation for consumption; It comes to the conclusion that the housing price somehow drives consumption fluctuations in America.

Green (1997) analyzed the Granger causality between housing sector investment and GDP in America using seasonal data from 1959 to 1992 and concluded that the housing sector has Granger

causality with respect to the business cycle and especially in Northern California, Green (2002). He also found evidence of a wealth effect. The results also show that policies designed to direct capital from housing to factories and equipment can cause severe short-term losses.

Eggert and Mihaljic (2007) by studying price determinants in 8 countries with transition economies in Eastern and Central Europe and 19 OECD countries showed that GDP is an important factor in price dynamics in the housing sector. Also, housing prices in transition economies are largely determined by some factors, especially the institutional development of the housing market and housing financing. But Kim (2004) with an overview of the size of the growth and fluctuation of housing sector investments from 1970 to 2002 along with long-term resource allocation and short-term macroeconomic fluctuations could not find a finding consistent with the result of Green (1997) in South Korea. In other words, in Korea, the Granger causality of the housing sector was not business cycles. Using seasonal data from 1980 to 2008 and based on urban data in America, Miller and others (2011) have investigated the effects of housing prices on urban GDP. The research results show that changes in housing prices significantly affect GDP growth rate per capita. Secondly, when families are more limited financially, the collateral effects are stronger. Also, Bostic, Gabriel and Painter. (2009) showed that for every 10% decrease in housing wealth in
2005, real GDP growth directly decreases by 1%. The results show that there will be significant economic risks related to the decrease in housing value.

In recent studies, Chow et al. (2017) investigated the causal relationship between economic policy uncertainty and housing market performance in China and India in the period of 2003-2012. Using linear and non-linear Granger causality panel method, they have concluded that there is a one-way causality from economic

policy uncertainty to real housing efficiency in both China and India. Also, Rystad (2018) has investigated the relationship between

housing prices, household credit and monetary policy shocks in the period of 1994-2013 in Norway using Bayesian structural self-explanatory method. The results of the model have shown that the impact of the monetary policy shock on housing prices was high, but its impact on household credit was not significant.

So far, relatively many studies have been conducted on the impact of macroeconomic variables on the indicators of the housing sector in Iran's economy, for example, the most important studies are as follows.

Qholizadeh and Akbarian (2009) in their study using Autoregressive distributed lag method (ARDL) and the seasonal data of Iran's economy during the period of 1371-1381 examined the effect of residential and non-residential investment and other important factors on economic The results show that there is a positive and significant relationship between economic growth and residential and non-residential investment in Iran. Also, based on the results of long-term relationships, housing investment has had a positive effect on economic growth.

Haidari (2011) in an article titled "Evaluation of the impact of monetary shocks on the price and level of activities in the housing sector" using a factor-augmented vector autoregressive (FAVAR) model, has examined the impact of monetary shocks on two basic variables, i.e. housing prices and the level of activities in this sector. The results show that liquidity and monetary base shocks create a wave-like effect in the housing sector, which lasts for about 5 years in the housing sector. And on the other hand, the impact of liquidity on this sector is longer and more lasting than the impact of monetary base shock. Shirin Bakhsh (1375) showed that household income, housing loans, household assets and housing prices are among the factors influencing the effective demand for housing in Iran. Yazdani (2008) shows that the variables of money volume, GDP interest rate and the amount of granted facilities in the housing sector

are the main determining factors for investment in Iran's housing sector.

Jalali Naini and Noghani Ardestani (2008) have investigated the mutual effect of housing price index on production fluctuations and also the reaction of housing price index to monetary shocks using vector auto regression) VAR) method. The results of this study showed that the contribution of the amount of money in the long term in explaining the changes in housing prices is more than other variables. Khiabani (2010) has investigated the effects of oil and monetary shocks on housing prices in Iran using a structural vector auto regression model and using Bayesian econometric techniques. The results have shown that oil income shocks explain a large part of the housing market fluctuations in Iran. And the impact of monetary shocks on the housing market is also confirmed in this study, but the relative size of the impact of oil shocks on the housing market is greater than the impact of monetary shocks.

## Macroeconomics and housing

There is a relatively recent and growing recognition of the importance of the interactive relationship between housing markets and the macro economy.

Conventional research on housing economics and urban economics, in turn, virtually ignores the interactions between housing markets and the macro economy. At the best, some theoretical and empirical analyzes for urban economics and housing include macroeconomic variables (such as inflation, economic growth, GDP, unemployment, etc.) as exogenous "control variables." For example, in Volume 4, Guidebook of Regional and Urban Economy 2, only articles by Charles Becker and Andrew Morrison on "Urbanization in Changing Economies" and Stephen Malpezzi on "Economic Analysis of Housing Markets in Developing and Transition Economies" look at this issue.

Recently, there is a small but growing research effort that attempts to bridge the gap between these two literatures and clarify issues of common consequence to macroeconomics and housing. This article

selectively reviews and highlights new directions for this collaborative research. This article is organized into the following six sub-sections. The next section presents the motivations underlying the " macro housing " link. After that, important ways of overlapping macroeconomics and housing economics will be discussed, with a brief summary of existing research. Section 3 will examine the interaction of the housing tax with the macro economy. Section 4 will discuss housing and business cycles and Section 5 will discuss housing "long cycles," a vibrant subset of housing market dynamics and cycles .The focal point of section 6 will be the microstructure of the housing market and urban form. The last part will end.

**Is the relationship important?**

How are the housing market and macroeconomics intertwined? Is it important to include the housing market in macroeconomic analysis and vice versa? What are the scope of macro housing researches and should they be? These are fundamental questions that deserve answers.

The simple answer is that housing is a large share of the overall macro economy. Here are some simplified facts to illustrate the importance of the housing market in the macro economy. Housing constitutes a significant share of the household.

**Housing and taxes**

It is easy to predict that property tax housing can be an important part of government budgets due to its immobility and size. There is a wide variety of literature on housing and taxation. Many of these housing tax papers have already been reviewed. We limit our attention to those research papers that examine the general effects of taxation and taxation.

**Housing and business cycles**

The housing market endures cyclic mobilities and significant fluctuations. For example, Davis and Heathcote (2001) show that in

the United States, the standard deviation of residential investment is more than twice that of non-residential investment. Ortalo-Magne &

Rady (1998) found that for the United States and the United Kingdom, the number of housing market transactions fluctuates more than the total housing price. which in turn has more fluctuations than GDP, although all three variables are correlated.

**"Long periods" Housing**

Empirical research frequently documents "long cycles" in the real estate market. For example, Wheaton (1987) found that office vacancy cycles and office expansion in the United States are approximately 10 years. Ball et al. (1998) show that new business asset cycles last 10 years and are independent of the business cycle in the UK. Using the Kalman Filter technique and cross-country data, Ball et al., 1996, Ball and Wood, 1999, discovered significant long cycles.

**Urban microstructure**

In this section, the relationship between the city and the housing market and the need for advanced research will be briefly discussed. According to Bogart (1998), a city is “a spatial concentration of a large number of people. The basic characteristic of a city is its density.

**New research frontiers for housing macro links**

This article selectively reviews the existing literature on the link between macroeconomics and the housing market. It examines the relationship between housing and taxes, the housing cycle, business cycles, the effects of bail restrictions on "long-term" housing markets, and the housing market and urban structure. There are many other interesting research topics on the macroeconomic and housing nexus. In the meantime, two questions deserve special emphasis.

**Macroeconomic consequences of housing supply constraints**

Housing supply constraints, including historic preservation policies, minimum land size, and height restrictions, are typically addressed with static Pigouvian instruments. But these policies also have dynamic consequences. Limited supply usually makes the quantities

that determine construction employment less swing and the prices that determine financial stability more swing. A notable exception occurs when areas without supply constraints are so created during a boom that construction ceases during recession. And then, elastic supply can be associated with both price volatility and limited ability to use credit instruments to boost employment during recession. As institutions with countercyclical missions buckle with housing policies, they must know that housing regulation interacts with monetary policy.

Real estate is a major asset class, and real estate downturns are often associated with the onset of larger banking crises, such as the Asian financial crisis of 1997 and the global financial crisis that began in 2007. It will also have consequences for the global economy. The elasticity of housing supply helps to determine whether a real estate boom ends in a financial crisis or an employment crisis, or both.

When the real estate boom is moderate, the intuition of supply and demand prevails. Elastic regions, such as the South America, will see greater fluctuations in the amount of construction and thus the amount of employment in construction. Non-elastic areas, including most of urban Europe, will see more volatility in prices and smaller construction volatility, that is likely to cause major changes in the balance sheets of financial institutions that have been in real estate for a long time. When the real estate boom is so great that construction disappears in the next recession, then a more flexible supply may then be associated with a greater recession in both prices and employment, what was seen in Phoenix and Las Vegas after 2007.

In highly elastic areas, interventions in the credit market generally change the level of construction rather than prices, and hence this increases employment, but it is less helpful to underwater buyers and their creditors. In inelastic areas or elastic areas with excess construction, credit market interventions directly affect prices rather than employment. During periods of prosperity, such price increases

usually increase consumption, but during a recession, underwater borrowers often cannot borrow against the value of their home, and so the consumption effects are muted. If, during a boom period, the level of excess supply reaches such a level that construction is likely to cease entirely during a recession, the central bank should expect its recession coping tools to be severely limited.

One of the messages of this paper is that financial market interventions, such as monetary easing, which affect the willingness to pay for housing, are driven by physical constraints in the housing market. Credit-related interventions aimed at making housing more affordable, such as increasing loan-to-income limits, will have little effect on housing consumption, unless the building restrictions are also reduced. The second message is that housing market reforms need to consider their consequences for cycles. If European countries adopt an easier construction policy, they are likely to trade an environment with greater price fluctuation for an environment with greater employment fluctuation. This change may require less bank supervision and better unemployment insurance in the construction industry.

## Hot asset markets and the microeconomics of construction constraints

If you asked residents of Amsterdam or New York in 1978 what their city's biggest problems would be in the next 40 years, few would say the high cost of housing. Many may have pointed to crime or urban unemployment or the loss of manufacturing jobs. Indeed, those who bought houses and apartments in those years were seen as giant risk-takers, buying themselves a seat in the urban Lusitania.

Four decades later, Amsterdam and New York are wealthy and safe. Both found a post-industrial future in information-based industries, such as finance, which is reminiscent of the former reputation of the

Dutch West India Company in both places. The loss of the industrial base can even be seen as an asset, as the pollution fled

with the factories. Indeed, almost none of the front-page issues of the 1970s remained major concerns. In addition, both Amsterdam and New York succeed as centers of consumption as well as production, as evidenced by the ability of both cities to attract tourists and travelers.

But economic recovery and a drop in crime rates meant an increase in demand for real estate. This reborn demand was met by muted supply in both locations. In both cities, height restrictions and historic preservation limit the ability of new private construction to meet demand. In the decades after World War II, the Netherlands built large numbers of social housing and New York City built large public housing buildings. While the Dutch social housing system is far more successful than its public housing counterpart in the United States, both cities have reduced their resources of new public housing in recent decades. As increased demand hit the steady supply, prices rose dramatically.

The lack of urban space is one of the causes of social unrest, which is related to urban inequality and gentrification. The demand of the rich people for the urban space would not be harmful for the poor if the living space was provided in an elastic manner. When homes are in short supply and real estate becomes a zero-sum game, then increased demand from the rich people drives up prices for the poor people.

Progressive leaders now see the costs of limited housing supply. But instead of deregulation, they promote new regulations such as pervasive zoning, which means supplying a small number of "affordable units". These units are then allocated to lucky lottery winners. At the time of Mayor Bloomberg, developers can choose affordable units and are rewarded with the ability to build. Under Mayor DeBlasio, mandatory zoning has been enacted. Conventional microeconomics suggests that mandatory zoning involves tax on the

construction of units with the market rate to subsidize units with non-market rates.

Microeconomic analysis tries to measure negative externalities caused by construction. And then he realizes that these externalities, at least in New York and Massachusetts, are far less than the implicit construction tax created by zoning. provides the closest similar analysis for the Netherlands. The restriction on new construction is definitely stronger in the center of Amsterdam, which is truly a World Cultural Heritage, than in most parts of New York.

In the public debate about high housing prices, macroeconomic evidence shows that restrictions can distort the entire economy. And concern about real estate as a broad asset class has led macroeconomists to increasingly take an interest in hot asset markets. This interest is very welcome, especially since macroeconomic oriented units, such as central banks, usually enjoy a privileged position in policy debates. However, as macroeconomists turn their attention to housing supply, they must also consider the implications that housing supply constraints have for the business cycle.

## Housing bubble, credit conditions and extraversion beliefs

Housing markets are usually volatile, moving both with changing economic fundamentals and with changes in beliefs that seem closer to animal spirits. In the United States, there is a sharp acceleration in house price changes at 1-year frequencies and a strong mean reversion to 5-year frequencies. Both facts are consistent with a model in which semi-logical buyers extrapolate underlying trends due the recent growth in housing prices.

The most popular rational explanation for the wide swings in housing prices is that credit conditions, both lending and approval rates, are driving it.

Glaser et al. (2012) provide theory and data showing that fluctuations in interest rates are too small to explain much of the

price boom and bust between 2000 and 2010 in the United States, at least if we assume buyer rationality. If buyers are not rational, then interest rates can play a role in creating price fluctuations, perhaps by creating small price movements that then lead to extrapolation bubbles.

## Influential factors of housing price fluctuations

The reasons and factors influencing the fluctuation of housing prices are various and numerous, and management weaknesses are at the top of all of them. Unfortunately, the drastic and astronomical fluctuations in housing prices, in addition to making the conditions for many Iranian families to own housing almost impossible, have also caused severe damage to its buying and selling market.

**What are the most important reasons and factors affecting housing price fluctuations?**

As you know, the housing problem has always existed in our country. But unfortunately, in the last two to three years, the problems in the housing sector have become a big problem which the most important consequence of which is the unprecedented growth and completely far from the logic of housing prices. In such a way that even the prices have crossed tenfold and have reached numbers and figures that make people amazed when they hear about it. A few years ago, even with ten million Tomans in savings, families in the provinces and neighborhoods of Tehran thought of pre-purchasing a house. Provided these numbers these days are not even enough to pay the monthly house rent, let alone buy a house. The current situation of the housing market is much more critical than we think and the most unfortunate thing is that this process could not be controlled and the housing price is still increasing every day.

Factors affecting the increase in the unbridled rate of housing in our country are many things, some of which include; The spread of the

corona virus, the unprecedented increase in the dollar and gold rates, the lack of an efficient monitoring system in the housing

market, the sharp increase in the price of construction materials and services, the strong influence of brokers and middlemen in the housing market.

In some cases, of course, not in the current state of the country's economy, even when the country's economic situation is in a favorable state, there are cases that cause an increase in housing prices. These items include; The amount of supply and demand, the development of infrastructure and the location of housing, the increase in the income of families and the growth of the country's economic index, the growth and decrease of the unemployment index in the country. Interest rate, demographic factors.

**What effect does the increase in exchange rate and gold have on housing prices?**

Undoubtedly, we all know that currently, willingly or unwillingly the country's economy is connected to the price of currency and gold, and any change and price increase in this field causes the price of all goods and products to increase. Of course, needless to say that the connection of economy and currency to each other is a governing law in the economy of the whole world and all countries. But, in different countries, the degree of dependence of these two on each other is variable. Unfortunately, in our country, the domestic economy continuity percentage to the exchange rate and gold is very high, in such a way that the smallest change in the currency market immediately shows its effects on the prices.

Therefore, housing prices are not exempted from this rule and are strongly influenced by currency fluctuations. We have seen a clear example of this fact during the last two or three years, and we saw that with the tenfold increase in the price of the dollar, the price of housing easily increased tenfold.

## Investigating the ineffectiveness of the housing sector's supervisory and management system and the fluctuation of housing prices

According to the events that we have witnessed, we can conclude that there is no effective monitoring system governing the housing sector of our country. Because if that was the case, all this disorder and libertinage would not have been observed in this field.
Tenfold and even more increase in the price of housing within two years, and in the event that all the building materials used for the construction and production of housing are provided inside the country and according to the ideal natural resources of the country, the need and dependency abroad is not felt either, there is no convincing explanation and justification from the officials of this sector except lack of management.

## Investigating the influence of brokers and middlemen on the increase in housing prices

It should be said that in our country, the housing market is completely in the hands of intermediaries and brokers, and they are the ones who determine how the market should be managed. In other words, the influence of real estate brokers and middlemen in this area is so high that they practically neutralize all government policies and plans in this regard and prevent them from coming to fruition.
Unfortunately, in our country, housing is recognized as an important investment factor instead of being considered as one of the basic needs of families. In such a way that some people own several houses and many others are deprived of the right to housing. Unfortunately, the recent events and the current situation have also become the further cause and took away the dream of owning a house for the majority of Iranian families, because considering the incomes

that can hardly even meet the daily and basic needs of life, how can one think about buying a house.

On the other hand, if a family has the ability to save, due to the severe inflation and increasing day by day, the value of their savings will decrease day by day.

It is really necessary for the statesmen to think of a solution in this regard and by establishing strict management rules along with full supervision, they will take the monopoly of housing from the hands of traders in this field and take it into their own hands.

**What effect does supply and demand have on housing price fluctuations?**

Undoubtedly, we all know that the supply and demand factor prevails not only in the housing market but also in the entire market of goods and services and is one of the reasons that influence prices. The higher the demand, the higher the price, and the higher the supply, the lower the price automatically.

This law also governs the housing market, and the higher the demand of people to buy housing, the higher the price of housing will be. And on the contrary, the lower the demand for buying and if the supply is high, the housing price will automatically decrease. Of course, needless to say that the increase in housing prices in the last two or three years has nothing to do with supply and demand. Because the economic conditions of the families are so pathetic that they even get loans to pay the rent and mortgage, let alone increase the demand for purchases.

**What is the effect of infrastructure development and housing location on its price fluctuation?**

One of the most important factors that are usually considered by applicants to purchase housing is its infrastructure development. Anyway, places that have proper infrastructure, newly built and engineered parking, and are also in a good location, have more demand and a higher price. For example, a house that is located in a neighborhood that has easy access to the subway, banks, government offices, recreational centers and green spaces, large

shopping centers, educational centers, health and treatment centers, etc., will certainly have a higher price. One of the main philosophies

of the huge price difference in different areas and neighborhoods in every city, especially big cities, is related to this issue. Of course, needless to say that the location of housing is also one of the factors influencing the fluctuation of housing prices. In fact, the more cozy and quiet the housing is, the more people will buy it.

**What is the relationship between economic growth and income increase with housing price fluctuations?**

Another effective factor on the price increase and housing rate fluctuation is the economic growth index of the region. In fact, this factor has caused the price of housing in big cities to be higher than in small cities. Because the income index in big cities is much better than small cities. Of course, this issue is fluential on the region and even the neighborhood in a city. Anyway, people like to have a house in a place where there is a good economic growth and it has a positive effect on the income of the people of that area.

**What effect does the growth of the unemployment rate have on the fluctuation of housing prices?**

The growth of the unemployment rate has an inverse relationship with the fluctuation of housing prices. The unemployment rate, which is also associated with economic recession, can reduce people's purchasing power for housing. Because the lower the purchasing power, the lower the demand for housing. As a result, the decrease in demand causes the housing price to decrease.

**Does the increase or decrease of interest rate affect the fluctuation of housing prices?**

The answer to the above question can have a positive answer. Because the interest rate is one of the main factors influencing the housing price. The decrease and increase of interest rates have an inverse relationship with the fluctuation of housing prices. To put it more clearly, when the interest rate increases, people's power to repay it decreases and as a result, they have less desire to get a loan to buy a

house. But if the loans and facilities offered for housing purchase have a lower interest rate, the demand for housing

purchase will be higher and as a result, the price fluctuation will also be higher.

**What is the relationship between demographics and housing price fluctuations?**

Demographic statistics is another influencing factor on housing price fluctuation. Demographics includes statistics and figures that examine and explore a series of social events and demographic changes and developments of a society. For some people, the question may arise as to what relationship this factor may have with the housing rate increase. In order to clarify the issue, we will continue the discussion with an example.

Divorce and marriage statistics are two important factors that have a place in the demographics of a society. Now suppose that in a society the number of divorces is estimated to be higher than the number of marriages. In such a situation, due to the decrease in demand for buying a house and forming a common life, the price of housing will naturally decrease. But in the opposite case, that is, when the number of marriages exceeds the number of divorces, the demand for housing increases, and as a result, housing prices also increase.

**What will be the consequences of a sharp increase in housing prices?**

A sharp increase in housing prices will cause many problems for the country's economy. According to the prices that are currently offered for real estate transactions, it is easy to understand the depth of the housing disaster in the country. And practically, it can be said that this right is being removed from the basket of rights and citizenship rights of the Iranian family.

And it will also have a very bad effect on the unemployment rate and economic recession. Because the decrease in purchasing power causes a decrease in the demand for purchases and as a result, construction projects fall asleep. Since a large segment of the country's people are daily rate workers in the field of construction,

the construction recession has caused them to be unemployed and will increase the economic recession more and more.

# Chapter Six

## Short-term and long-term courses of economics

As an economic commodity, housing has characteristics that distinguish it from other commodities. On the one hand, housing can be a consumer product, which is the most important basic human need after food and clothing, and on the other hand, as a durable immovable product, it is considered a capital product, which investment in it is a large part of the household's assets, and besides households, it also has a special attraction for economic agencies.

During the last two decades, Iran's economy has witnessed the most volatile changes in housing prices. And the severe recession and boom in the housing sector has left harmful effects on this sector and other economic sectors. The sharp increase in housing prices and periodic shocks in housing prices in different countries, especially in Iran, are very broad and complex phenomena and beyond a merely limited and intradepartmental issue. The economic effects and social consequences of a sharp increase in the price of housing or its sharp fluctuation have very wide dimensions.

Therefore, the housing sector in recent years in Iran has left extensive losses on households, agencies producing housing and the performance of other economic sectors. Considering the importance

of the housing sector in the country's economy, the need for policy making and the appropriate response of monetary and financial policy to the housing price bubble is very important. A correct analysis of the housing market situation and a correct understanding of the major factors affecting it and the degree of influence of each of them can help the planners and officials in the correct analysis and prediction of the future situation and provide appropriate solutions accordingly. Diagnosing the existence of a price bubble in different markets is one of the new topics in the field of urban economy and urban management. In recent decades, bubbles were considered a well-known phenomenon in the housing market, but there was no consensus about the performance and the variables affecting it. Economists have provided different definitions of the price bubble, the most common definition is that the housing price bubble occurs when the housing price increase is not justified by the fundamental concepts of macroeconomics and the important factors of the housing market. In general, a housing price bubble can be defined as a sharp and one-time increase in housing prices, as a result of which price increases are expected in the future and it causes more economic and financial losses. Usually, in examining the theoretical foundations and definition of bubble, most scientists focus on several important and key concepts, such as rapid increase in prices, unrealistic expectations price increases in future, price deviations from the fundamental value of the housing market, fundamental factors of the housing market, or extreme price provocations after the bubble collapses.

The mechanism of the bubble in the real estate market is such that buyers think that a house that is very expensive under normal conditions has a reasonable price now due to a significant increase in its future price. Therefore, people who intend to buy a house may worry that if they buy the desired housing in the current situation,

they will not be able to buy the same housing in the future. This issue leads them to the housing market and on the other hand, if

people do not presume that housing prices will decrease especially for a long time, the expected increase in housing prices can have a strong impact on housing demand. Therefore, the risk of investing in housing is reduced and this process causes a bubble to appear. If expectations of rapid and uniform future price increases are an important motivating factor for housing buyers, then housing prices become inherently unstable. Therefore, the price of housing cannot be rising forever and when people realize that the price cannot increase, it causes a sudden price reversal which this price reduction has led to a decrease in demand, in other words, the bubble bursts. Bubbles are known in three forms: positive bubble, neutral bubble, and negative bubble. Positive and negative bubbles and their relationship with the central bank's monetary policies are very important.

## Investigating housing policies in different countries

Housing programs in the United States and Western European nations have much in common. All these countries have started programs of public housing, urban renewal and new cities. However, public sector interventions in Europe started earlier and were much more extensive than in the United States.

For example, Britain started developing public housing in the late 19th century. The Workers' House Laws, which mandated that the local government build public housing, were passed in the middle of the 19th century, that means, 75 years earlier compared to the United States, the Housing Law was approved. Purging and demolition measures for urban renewal gained strength in the same period, that is, almost a century before the similar measures of the Americans. After each of the world wars, huge public housing programs were undertaken. In the 1970s, almost one-third of British housing received public subsidies, while this statistic in the United

States reaches only 1 to 2. Also, Britain has planned the development of several new communities (settlements), which are

in contrast to the new and largely unsuccessful investments of new cities in America.

Housing policies in other Western European nations are similar to Britain. For example, there are extensive laws and regulations that have come in the form of subsidies to demolish slums and help implement housing. Germany, France, Holland and other countries offer low or no interest loans. The development of new cities is also encouraged or given subsidies and grants. More than ten new towns have been built in the suburbs of Paris.

Dealing with the problem of private and public housing in Canada has been done with great initiative and influence. Federal government funds for housing are almost entirely directed at low-income groups. The government provides grants to states, municipalities, and individuals to use for neighborhood improvements, home purchases, home renovations, and new community development. At the same time, the private sector has provided a large amount of financial aid to the mortgage market.

Housing in the Union of Soviet Socialist Republics. (USSR) and the nations of Eastern Europe is almost exclusively determined by government regulations and provisions. These countries were pioneers in the construction and installation of large residential units in urban areas. Residential units, which were usually made of concrete, were built in a factory and then transported to the housing site, that is, where they were collected and put together in the form of large multi-family complexes. The Union of Soviet Socialist Republics also pioneered in the development of new cities, frequently located around industrial facilities or power generators. An example was the town of Bratsk near the Bratsk hydroelectric industrial unit in Siberia.

Housing in economically developing countries is at a low level in terms of quality and space compared to economically developed countries. The government's efforts to improve housing conditions

are progressing slowly. In the 1950s, slum demolition was implemented on a large scale in many cities such as Manila in the

Philippines and Baghdad in Iraq. In the 1960s, the development of new cities such as Brasilia became common in Brazil. These strategies often prove to be ineffective. Demolition was usually not accompanied by replacement of housing, and new cities sometimes proved to be islands in the sea of slums. In the 1970s, some developing countries turned to self-help housing. The families were given plots of land and construction materials to build and improve their own shelters. This housing approach is usually referred to as sites and services. So far, this approach has been implemented in India and South American countries on a large scale.

Several organizations help to housing development and improve housing standards. These organizations are: The International Bank for Reconstruction, the United Nations Commission on Human Settlements, and the U.S. Agency for International Development. Development).

Housing is a very important element in the social and economic fabric of all nations. No country has yet reached a satisfactory level in which adequate housing is distributed among the various economic groups that make up its population. Therefore, most countries claim in various ways that the housing problem continues in their country.

In the 1990s, there was a shortage of affordable housing for the poor, low-income, or middle class in many parts of the United States. Rented houses and occupied properties were affected. Homeless people, especially in cities, lived in shelters or on the streets, while at the same time, private and public residential buildings were abandoned in some crime-prone areas. Most of the inner city areas lost their population, while the suburban areas continued to grow rapidly and sometimes disorderly. Housing was developed in all areas to meet the needs of the disabled and the elderly. Advances in the factory-built housing industry gave hope that affordable homes could be mass-produced.

Federal, state and local governments have been searching and trying to find a solution to the housing problem in the United States. The

proposals included: renovation of public housing, sale of government subsidized units to tenants, organization of public and private partnership, restriction of zoning reform and issuance of housing coupons.

Other countries are facing different problems to some extent. Britain and most of Western Europe were struggling with emigration and decentralization of cities. In the former Soviet Union and in Eastern Europe, the demand for more private space in homes has increased. In the third world, the demand for primary housing is still largely unmet, as most people move to very dense and crowded cities. The informal settlements built by these immigrants on the outskirts of many cities lack electricity, piped water, and sanitation systems.

## Examining global policies in the field of providing affordable housing

Considering the increasing growth of urbanization in the world, providing housing, especially for low-income urban groups, is one of the most important issues and challenges facing the countries of the world to achieve sustainable development. Almost all the countries of the world are facing problems in this field that some countries have overcome the problem to some extent by providing appropriate mechanisms, and they have been able to achieve a logical course in the field of providing housing. One of the most important housing policies for low-income groups in the city, which has received attention in recent years, is the use of affordable housing policies.

The low-income groups face many problems in order to provide housing in the cities, from the first step, i.e. choosing a place of residence, to the size and area of the house, the materials and composition of the house, to the permits and facilities for building a house. Despite these conditions and the ever-increasing growth of

urban population, especially in third world countries, providing affordable housing for low-income urban groups has become one of

the goals of governments in housing planning. Of course, despite the constant emphasis on the importance of housing as a basic need and fundamental right, a significant percentage of urban households are unable to provide it. Therefore, the mentioned problem is becoming more complicated day by day and the conditions of more and more families are becoming critical.

In order to determine the appropriate place of housing in development plans and management and allocation of resources, it is necessary to establish a close relationship between the goals and housing policies and the general and public goals and policies of social and economic development in urban plans. Investigating and recognizing the place of housing in urban plans and creating a connection between housing policies and urban plans is the most important tool for achieving the goals related to housing as the most effective formative physical element to the urban space. Planning and the policy making process and its immediate product, i.e., development plans at different levels, especially urban plans, as the arm of governments, play an important role in providing public benefits and distributing resources at the community level.

Considering that almost all countries of the world are facing the problem of housing supply, this problem and its consequences have forced many countries to take more effective measures to solve this problem and in this way, provide a more suitable environment for low-income urban groups to benefit from the fruits of urban life.

Providing affordable housing remains a challenge for most countries, especially developing and transitioning countries. Currently, more than 1 billion people live in slums. Over the next 25 years, more than 2 billion people will need housing and public infrastructure services.

The housing challenge is especially evident in Asian cities. Although most of the Asian countries are rural, this continent has the fastest growing urbanization in the world. Predictions show that

between 2010 and 2050, the urban population in Asia will nearly double and reach 3.4 billion people. Asian cities must accommodate

120,000 new residents every day, which equates to a daily housing demand of at least 20,000 residential units.

In today's era, buying a residential unit is the biggest investment of the poor. And personal residential units constitute more than 75 to 90 percent of the wealth of households in developing countries and the transition of developing economies, which amounts to three to six times the annual income of households. In addition, housing accounts for about 15 to 40 percent of the monthly expenses of households all over the world. In a country like Iran, where the income inequality of different groups is very severe, addressing the priorities of low-income groups, especially affordable housing, is considered one of the first necessities of national development.

Also, many urban planners believe that the lack of affordable housing has a negative impact on the health of the entire society. The challenges of affordable housing in inner cities start from the homeless who are forced to live on the streets and continue to the relative deprivation of vital workers such as police officers, firefighters, nurses and teachers who are unable to provide housing near their workplaces. These workers have to live in the outskirts of the city, where they sometimes have to travel up to two hours to reach their place of work. This lack of affordable housing causes a lack of cheap labor and an increase in demand for transportation systems, workers who travel long distances between work and cheap housing. Research also shows that the increase in housing prices in the US cities of Los Angeles, California, Sarasota and Florida is related to the decrease in enrollment in local schools. Therefore, cheap housing is not only a category in the economic dimension and affects other social, cultural and political fields.

Among the most important researches that have been done in the field of affordable housing policies and programs, we can mention the research done by Habitat in this field.

In this series of researches, which are done in four parts including Europe and North America, Latin America and the Caribbean islands, Africa and Asia, it examines the condition of land and

affordable housing in these continents and in each continent, it presents programs according to its situation and examines the programs of the countries. These programs are developed and presented to help policy makers and local communities to fight urban problems and find sustainable and enforceable solutions. Of course, apart from this researches, Habitat has so far had several important statements and agendas, including the Vancouver statement and the human settlement agenda of Istanbul. The most important international document that has influenced all planning trends since the end of the 20th century is the 21st Sustainable Development Agenda and the Rio de Janeiro Summit. The general principles of Agenda 21 are to achieve sustainable development in all dimensions and recommend sustainable solutions and ways of thinking that can be implemented in the long term.

Also, John Turner, in several articles in 1967, 1978 and 1982, mentioned the issue of housing for the beggers and how to provide it, and believes that governments cannot provide housing for the beggers; rather, only facilities such as water, electricity, etc. should be provided for the urban poor people.

Also, Benrooz and Dorit (2009) have proposed a comprehensive system for the provision of mass customized housing to reduce the cost of providing housing. Bramley (1994) investigated the problems of affordable housing in England and Margarie Osteen-Turner and Thomas Kingsley (2008) in an analytical report entitled "Federal Programs for the Housing Needs of Low-Income Primary Policy Groups "have investigated the housing policy of low-income groups in the United States. Gordon (2002) considers the most important problem of low-income groups in providing housing to be related to financial resources and investment. Gabriel and others (2005) discussed the impact of low-cost housing on the overall health of society and believe that housing is a comprehensive category that affects all aspects of society. Richard Harris and Sinwyn Giles

(2003) have described the evolution of international housing policies in three stages as follows: The first phase from

1945 to 1960 was social housing policy, the second phase from 1972 to 1980 was land and service policy, and the third phase was empowerment policy from 1980 to now.

## Definition of affordable housing

Affordable housing is residential units that are considered affordable for people with average income. In Australia, the Summit of the National Group of Affordable Housing expresses its definition of affordable housing as follows: A suitable and reasonable place according to the standards for low to medium income families whose cost is proportional to the ability of families to respond to their basic needs in a sustainable manner. In England, affordable housing is rental and medium-sized housing for eligible households that are not linked to the housing market. In the human settlement program, the United Nations defines affordable housing as follows: In general, it is defined as a place that is in a good quality and location and is not so expensive that it disrupts the basic costs of life or threatens the enjoyment of basic human rights.
Measuring the ability to provide housing.

### Measuring the ability to provide housing

A common criterion to measure the ability of the whole society is the number of houses that a family can afford with a certain percentage of their average income. For example, in a perfectly balanced housing market, the average families and half of the wealthy families can officially afford average housing options, while people poorer than this limit, they cannot afford average residential units. The affordability of 50% of people in the society indicates a balanced housing market.
The median multiple index recommended by the World Bank and the United Nations calculates housing affordability by dividing the average housing price on the average gross annual household

income before tax. This index categorizes housing affordability between numbers 0 to 5 and considers the set of 3 and less as

affordable. From 1,3 to 4 is considered as an average level, 1,4 to 5 is considered dangerous and 5 and more is considered as a serious lack of ability.

Another method of checking affordability is to check the regular hourly wages of full-time employees who earn the minimum wage. Ideally, full-time employees should be able to afford at least one small apartment unit in their work area.

In the United States and Canada, there is a guideline for housing affordability, which states that a household's cost of housing should not exceed 30 percent of the household's gross income. When the monthly cost of managing a house is more than 30-35 of the total household income, that residential unit is considered unsuitable for this family.

The main factor that determines housing affordability is income, not price and availability in the market economy of income distribution is the main factor determining the quality and quantity of housing. Therefore, understanding the challenges of affordable housing requires understanding trends and inequality in income and wealth.

## Affordable housing and public policies

Policymakers at all levels, global, national, regional, urban, and local, have thousands of policy tools to address the issue of affordable housing, which is a complex global crisis. These answers consist of a wide range of financial instruments controlling the class gap divide to the long-term changes between governments. Public policies are shaped by basic assumptions about the nature of housing. Is housing a basic need, a right, a public good, or even a civic duty, as is the case with buying a home in the United States? Or is it just another choice of households at different levels like a commodity or an investment in the free market system? Housing policies are a significant benchmark of the value of politicians at every administrative level of different societies that affect them. Housing

policies are a significant benchmark of the value of politicians at every administrative level of different societies that

affect them. This test often simply measures the level of attention of the affluent and safe stratum of society towards people with low socioeconomic ranks.

Affordable housing needs are addressed through public policy tools that emphasize demand in the market. Programs that help households to reach the financial criteria for affordable housing, programs include methods to improve overall economic growth in the hope that a stronger economy, higher employment rates, and higher wages will increase the ability of households to obtain housing at market prices. The policies of the central government in the definitions of banking and the application of mortgages, taxes and effective regulatory measures on construction materials, professional practices, for example, real estate transactions, can increase the purchasing power of households through tax and financial policies that reduce the cost of mortgages and effective borrowing. Public policies can include subsidy plans and incentive models for middle-class families.

For vulnerable groups such as the elderly, single-parent families, the disabled, etc., government financial aid strategies can be used in some way so that each family has enough income to pay for housing. Different countries have tried different policies in different periods of time to meet the need of affordable housing in the society, which have failed in some areas and succeeded in some of them. These experiences at the global level can help to provide new solutions to improve the housing situation in the country and become the basis for increasing the supply of affordable housing.

## Affordable housing policies in different countries

**• Australia**

Australians receive many social security benefits from Centrelink. Centrelink is a program under the supervision of the Ministry of Human Services of the Australian Government. which has provided

a wide range of government assistance and services to pensioners, the unemployed, heads of households, disabled people, Aboriginal

Australians, etc and provides a wide range of cultural and linguistic services. This center identifies eligible households to receive housing and to help them, rent housing from private owners and pays these households rent allowances. Rent allowance is a subsidy paid directly to tenants in addition to basic Centrelink benefits such as retirement pension and disability pension. The amount of allowance paid for rent depends on the amount of rent and the number of dependents of the tenant. Tenants living in public housing in Australia are not eligible for rental assistance. In addition to paying rental assistance to low-income families, the Australian government has considered financial assistance for those who want to own a home for the first time. The financial resources of this plan are provided jointly by the central government and the state and regional governments. First timers are currently eligible for a $7,000 grant to reduce the cost of entering the housing market. Home ownership sharing is another initiative of the Australian government that is unique in its kind. Residents of Western Australia can buy a house using the assistance of the Housing Authority. With joint ownership, the initial costs of buying a house are reduced in such a way that the administration keeps up to 30% of the property for itself. The share of the administration depends on The amount of people's borrowing, family size, location and type of property. In the future, the buyer can buy the entire share from the office or sell his share to the office. With this loan, people can buy newly built houses outside the features of the plan provided by the Ministry of Housing. Also, the Australian Housing Authority sells low-cost houses to the public through the Housing Authority. These properties are available to anyone interested in buying a home. This office has been in close contact with many housing developers to ensure that the properties that are being built for sale are affordable and available for low and medium income people.

• **China**

China's urban population at the beginning of the 21st century is about 235 million people, which has grown significantly compared

to 1949 with an urban population of about 57.6 million people. In this country, there is a significant price gap between housing and the ability to buy it. For this reason, it is moving from a type of welfare benefit system to a market-oriented allocation system. Before 1978, most of the urban housing units during the economic planning period included houses produced in a system close to the free market and allocated by the unstable single-channel government system. The goal of the housing reforms that began in
1978 was to gradually transform housing from a "free" commodity to a subsidized commodity and finally to a consumer commodity whose price reflects the real costs of production and be a market profit margin.

In 1998, China moved from a welfare benefit system to a market-oriented allocation system by increasing the acceleration of reforms in the field of urban housing, by reducing the role of the government in providing housing. The reforms were accompanied by an increase in home ownership, housing consumption, real estate investment and, of course, a staggering rise in housing prices.

High housing prices are one of the serious problems in some big cities in China. In 2005, the increase in housing prices became a serious problem in the affordability of low and middle income families. In 2004, the %8.17 housing price increase was almost double the %10 growth rate income. By using housing policies and programs, including affordable housing and the housing fund program, municipalities responded to the public demand for increasing housing for middle and low-income families. The affordable housing program, which is usually known as the economic and easy housing program, was designed to provide affordable housing to middle and low income families to encourage home ownership. In 1998, the Ministry of Construction and the Ministry of Finance jointly announced that the methods of managing the construction of cheap urban housing are the starting point of the program. The

targeting of this program was on middle and low-income families, with an annual income of less than 30,000

to 70,000 RMB depending on the size of the household and the area of residence. This public housing program provides homes (typically 60-110 square meters) that are affordable (typically 50-70 market price).

In the policies and duties determined by the central government, local governments are responsible for the implementation and exploitation of these programs. Local governments usually allocate suitable public lands to real estate developers who are responsible for the financing and construction of affordable housing. Real estate developers' profits have been reduced to less than %3 to keep housing prices at an affordable level. People must be accepted through family and income screening to get affordable housing.

Futuristic housing fund program is another political effort to provide affordable housing. China introduced the nationwide Housing Futuristic Fund program in 1995. Housing Provident Fund(HPF) provides a mechanism by which potential buyers can eventually purchase a residential unit (maybe a previously public housing unit) with the income they save. HPF includes a subsidized savings program (linked to a retirement account), subsidized mortgages, and price discount for buying housing.

**• England**

In England, municipalities and local councils have historically played a prominent role in managing public housing and renting it to low-income groups. In this country, voluntary movements, housing cooperatives and local authorities of cities started their activities to build housing for low-income urban groups from the end of the 19th century. From the beginning of the 19th century, following the industrialization of this country, which was the forerunner of the industrial revolution, the problem of housing appeared. For many years, the private sector was the main provider of housing for the mass of the urban population. With the acuteness of housing problems, the government is forced to intervene and intervened in the housing

sector and provided it, especially for low- income groups. During the years 1964 to 1970, the speed of

building new houses increased and the share of houses built by the government increased from 42% to 50% of the total number of houses in the country. The British government was able to build 119,133 and 142 thousand new houses in 1964, 1965 and 1966, respectively. Between 1965 and 1970, 1.3 million new houses were built by the government.

In the past, a high proportion of houses in England were owned by councils. But this amount decreased from the early 1980s due to Thatcher's measures that limited the construction of council housing and provided financial and political support for other forms of social housing. In 1980, Thatcher's Conservative government introduced Right to purchase plan, whereby council tenants had the opportunity to buy their rented houses at a discount of up to 60%. In recent years, government policies have been aimed at reducing government intervention as much as possible. Subsidies are given to low-income households, elderly or disabled people to access suitable housing.

In this country, there is a wide range of affordable housing ownership, including shared ownership in which the tenant rents a share in the property from the social owner and becomes the owner of the rest of the property. Also, the government is trying to increase the supply of cheap stocks for ownership and purchase and using the land use planning system, require housing developers to lower part of housing costs in new developments. This method is commonly known as zoning (although not in the UK) and now there is a mechanism to ensure the provision of affordable housing as part of a functional planning for new housing developments.

In England, about four hundred elected regional and urban councils, cooperative societies, housing societies, rental housing societies and self-build societies are directly involved in the process of identifying low-income households and providing affordable housing. The role of the government in this process is worth

considering. Here, the government is not directly responsible for all implementation steps and construction of affordable housing. The

government's role is to monitor the provision of equipment and compliance with rules and standards, as well as creating facilities such as financial resources and control of the land market to encourage the activity of the private sector and grant financial aid and tax discounts for housing buyers.

**• United States of America**

The United States lacks a comprehensive social housing system compared to Europe. Financial assistance is provided for owners through tax and mortgage interest deductions and for low-income families through housing subsidized programs. Federal housing assistance for low-income families can be divided into three parts:

1. Tenant-oriented subsidies that are given to specific and qualified families. In this government, all or part of the required capital for housing rent is provided to the household and the choice of housing is the responsibility of the citizens.
2. Project-oriented subsidies given to the owners of residential units based on which they have to rent a house at an affordable rate to low-income families. These policies, which have been followed since the Second World War, have led to rent control by the government, based on this, the rents are determined according to the people's ability and lower than the market value.
3. Social housing that is usually owned and managed by the government. Some public housing projects have been assigned to private organizations. All these three categories of policies are implemented together. The government bears the biggest cost, but it does not interfere much in the housing market. The federal government has made the availability of housing for applicants and the profitability of the market the ultimate goal of its activity.

   New York City is considered the most important city in the United States. This city is one of the desirable places to live,

which attracts a large population every year and faces the limitations of water, public transportation and housing. Finding

affordable housing in New York City has become a struggle for a large segment of the city's population, including low-income, middle-income, and even moderate-income earners. Some of the affordable housing policies in New York City include;

**Inclusive zoning**

Inclusive zoning is an approach for diverse housing development for different income groups. Implementation of these laws requires that a certain percentage of the units in any new building or substantially renovated building be designated for affordable housing. On the other hand, developers (mass builders) have been given incentive density and allow them to build more units than the conventional amount. The inclusive zoning seeks to increase communities with different incomes and fair growth for all residents.

**Initiative plan of the selected neighborhood**

The initiative plan of the selected neighborhood is a program sponsored by the United States Department of Housing and Urban Development. This program is an idea for more investment in low to medium income areas and seeks economic revival in these areas. The goal of this initiative is to provide economic opportunities in areas that have a high density of affordable housing and have access to public transportation. In this plan, neighborhoods with high density of public housing compete for urban revitalization. Each neighborhood presents suggested strategies for using financial resources to create lasting results that improve the quality of life in the regions. Targeting the budget of this plan was to demolish and create residential areas and new developments. But this budget can be used to invest in the construction of schools, infrastructures and commercial developments.

**Housing subsidy**

Housing subsidies are allocated to low-income citizens. Tenants may spend up to 30 percent of their income on rent, for this reason, the difference between this amount and the market price is paid to

private house owners through subsidies. These subsidies have provided increased mobility and the right to choose the place of residence for low-income residents and enables them to live in areas with increased access to economic opportunities and transportation.

**Green affordable housing**

Green affordable housing is another plan in the United States to provide housing for low-income urban groups. Green affordable housing is generally a housing with a reasonable price that has features that are compatible with the environment. One of the advantages of this housing is reducing the pressure of energy costs on households and improving health. Green affordable housing projects, in addition to the features of affordable housing, seeking to reduce the cost of the lifetime of the residential unit and improve its quality. In the long term, these residential units have reduced current costs such as water, electricity, gas, or even health and medical costs and it causes a lower cost of household income to be spent on housing.

- **Urban housing policies in East and Southeast Asian countries**

Providing suitable housing for citizens, especially the low-income group in the countries of the world, is a challenge to achieve sustainable development. Therefore, various policies have been implemented to solve it. Reviewing the experiences of different countries in the world is a good opportunity for the housing planners and policy makers of our country.

In general, politics is any method and policy for managing or improving social affairs. And in a special sense, housing policy refers to matters that are related to the government, management, determining the form, objectives and how the government operates in the housing sector. Housing is one of the most basic and sensitive sectors in economic and social development planning and along with food and clothing, it has long been considered as the main needs of human groups. In addition, the most important influencing

factor in a person's level of satisfaction with living in an area is the condition of housing and its environmental conditions. In the

current situation, on the one hand, the majority of the world's population lives in cities, and on the other hand, the world, especially developing countries such as East and Southeast Asian countries, are facing an increasing urbanization process. Today, more than 1 billion people live in slums of these countries, and in the next 25 years, more than 2 billion people will add to the growing demand for housing and their basic infrastructure. Therefore, it is not far from the mind that in the matter of urban housing production, providing housing for different groups of the urban population, especially the low-income strata, according to the material and spiritual needs, balanced with the economic status, the low-income family should be a priority. Especially since, for many families around the world, housing is the highest cost in the household budget. The lack of necessary resources, weakness in economic management, lack of comprehensive housing planning and other inadequacies in the economic infrastructure of these countries on the one hand, and the rapid increase of the urban population on the other hand, have turned the providing of shelter in these countries into a multi-dimensional problem. Therefore, the presence and intervention of governments in the housing market is usually done with the aim of establishing the most appropriate logical interaction between the supply and demand sectors. In order to facilitate the achievement of the basic goals of urban housing in a kind of active concordance and realistic adaptation between these two components that all income groups have appropriate access to affordable housing. Based on this, so far, various plans and policies have been presented to solve the housing problem in different countries, which usually arose from the structural conditions governing their time and place. These policies have sometimes resulted in positive results and sometimes have led to failure. In this context, identifying and examining the housing provision policies in different countries, in order to take advantage of the experiences of these countries and to

investigate the possibility of benefiting and implementing some of these policies in our country, with the belief

that a country's use of successful and tested methods in other countries, it increases the probability of achieving the expected results in this regard, it is necessary.

## Introduction of housing supply policies

Governments work with policies in various monetary, financial and legislative fields in order to create a platform for the private sector and for the efficiency of the housing market. Some of these policies include:

**Land market control policy:** Since the field of speculation in the land market is much more susceptible than other markets. Governments try to control this market by enacting numerous laws, exercising strict control over land use, exercising control over the process of issuing construction permits, providing and storing suitable land for housing construction and the city's future needs, etc.

**Subsidies and financial aid policy**: The government can apply this policy in different ways and in two forms of direct and indirect assistance to housing construction. In the first form, capital subsidy, tax subsidy or cost subsidy can be mentioned. Indirect aid can be used in the form of tax rebates on profits from construction, as well as tax rebates on the purchase of land and real estate. In this policy, the allowance for providing safe and healthy housing for low-income groups is provided through the granting of low-interest loans with the financial assistance and participation of the government and the establishment of various forms of financial funds.

**Rent control policy:** Enacting rent control laws, directing private sector investment in the construction of rental housing for low-income groups are among the measures related to this policy. Adaptation of rental rates for tenants can be done in two ways:

First, lowering the cost of rent with the help of tools such as rent coupons or rent subsidies. And secondly, encouraging

investment in the construction of rental housing by using facilities such as land, loans, tax credits and finally the correct use of the "density" tool by the municipality.

**Production policy for rent:** In this policy, the government encourages private and public sector builders to allocate part of their housing production to rental housing. Sometimes, in this policy, a rental residential unit is built by the private sector, on government land that is handed over under the conditions of discount, installment or rent, using low interest loans.

**Housing supply privatization policy:** During this policy, private builders are defined and determined, and certain tasks and facilities, and related laws are also formulated and approved for them.

**The politics of Thatcherism:** During it, the revival of old buildings and their purchase through granting low-interest loans is considered. This policy is the policy of providing part of the housing needs through the renovation and improvement of worn-out structures in Iran which is being done through various legal protections such as granting low-interest loans, toll discounts, issuing building permits, giving incentive density, etc. and in the form of the fourth and especially the fifth economic and social development programs of the country.

**Land Policy - Services:** In this policy, the government provides ready land to the low-income and poor sections of the society. In this plan, where the land had plans and user maps, it is possible to build self-help and gradually in parallel with the improvement of the household's economic situation and both the government's per capita investment will decrease and more people will be included in the support programs.

**Social housing policy:** In this approach, the government builds residential complexes with low-cost units through established institutions.

**The policy of creating a land and housing database:** This bank is formed through policy making integration for land inventory and with the aim of providing clarification and continuous access to complete and up-to-date statistics on land and housing.

**Government housing construction policy:** In this policy, the government plays a major role in decision making, development and allocation of housing, and the construction of government housing is an important element in national housing programs for different classes.

**The policy of building residential units under hire purchase:** Based on this strategy, residential units are transferred and the rental funds are collected and deducted from the total price of the house in monthly installments.

**The policy of building cheap houses:** that this policy is implemented through the mobilization of private funds, renovation of housing in old neighborhoods, comprehensive plans, etc.

**The policy of industrialization of housing production:** It is a cost-effective process, with a large volume, during which structural parts and housing facades are produced in factories that are set up for this purpose to provide greater resistance against lateral forces.

**• Urbanization process and housing issue in Asia and East Asia**

Asian countries have the highest population growth rates in the world. Predictions show that between 2010 and 2050, the urban population of Asia will nearly double (figure 2). The proportion of the population living in urban areas of Asia will reach 80.47% in 2015 from 62.24% in 1995. The settlement process is such that this population will be concentrated in big cities and their housing demand exacerbates the crisis and challenge in urban housing in Asia, that this growth requires construction of more than 20,000 new homes.

In most Asian countries, access to land and cheap housing is a crisis. This crisis has different characteristics in different countries and regions. What is clear is the increasing difficulty of obtaining suitable and affordable land and housing for large numbers of people. In addition, nearly one-third of families in Asia live in slums and informal settlements. In addition to the lack of land, financial constraints are another major barrier to access to the affordable housing in Asia. In Asia in general, many households live with average incomes and access to suitable and affordable housing is a current and growing problem in most countries of this continent. As, in many of these countries, housing is very expensive and on the other hand, incomes are very low, therefore, most families have to live in poor houses and slums.

According to United Nations statistics, at the end of World War I, the population of East and Southeast Asia was 849 million people and the rate of urbanization in these countries was low. From then on, the rate of urban growth and population increased rapidly. In 2000, the total population in East and Southeast Asia reached 2001 million. After the Second World War, East Asia is one of the regions with rapid urbanization and at the same time many of its countries experienced significant economic growth. In 1950, the urban population of Asia was 229 million people. However, in 60 years, the population has grown sevenfold and in 2010, its population reached 1.7 billion. Now, more than half of the world's population lives in Asia. The United Nations estimates that by 2030, the total population of Southeast Asia will reach 2,370 million (60 percent).

**• Urban housing policies in East and Southeast Asia**

Housing policies and programs across Asian countries have varied over the past sixty years. For example, some countries have sought to provide social housing. Some have followed the provision of governmental land led by the private sector and some have sought

to upgrade existing settlements. Reports show that the lack of affordable access to land is the main obstacle to increasing the

supply of affordable housing in Asia. Despite significant challenges in the housing sector in Asia, several countries, including Singapore and Hong Kong, have achieved universal access to adequate housing through a range of interventions and through concerted and purposeful efforts by the government. For example, in China, the floor area has increased on average and with the implementation of a wide range of coordinated programs, housing prices have improved. Many Asian countries, including China and India, have been able to create affordable housing with strong political will and institutional improvement.

**• China's housing policies**

China is the third largest country in the world with an area of 561.9 million square kilometers. And with a population of about one billion three hundred million people, is the most populous country in the world. China's urban population at the beginning of the 21st century is about 235 million people, which compared to 1949 with an urban population of about 6.57 million people, has grown significantly. Politically, after the events and experiences of different governments, China finally gained independence in 1949 under the rule of the Communists. At the beginning of the Chinese revolution, due to the decrease in investment in urban housing, along with the increasing population growth, the housing situation in urban areas became a crisis. Against international trends, an increase in residential space has been reported in China, as the per capita residential area increased from 6.7 square meters in 1990 to 9.3 square meters in 1998. In the provinces, the living space doubled and the living space per family member increased from 8 square meters in 1998 to 15.8 square meters in 1999. In terms of the need for housing, in a census process that was carried out in 1987 in a part of China (except Taiwan and Tibet), it was found that 5.26% of households have a lack of housing, 2.3% of them do not have a specific place, 10% in Hard conditions and 12% live in

overcrowded conditions. The process of urbanization in China is fast and has the largest flow of rural-urban migration in the history

of the world, which has led to the rapid increase of its urban population. In summary, it can be said: the rapid urbanization process in China, migration from rural to city, and the economic impact of China's urban housing growth, such as: the supply of commercial-residential urban houses, changes in the urban population mainly from rural areas to city, and the existence of households with income and the floating areas in the city were among the factors of the housing boom in the crisis period from
1995 to 2005. In recent years, housing reforms and the rapid increase in urban housing prices in China have caused increasing concern. And it has caused public housing policies to be ignored the demand for housing for low-income people and immigrants in urban areas. Therefore, in the long period after 1998, many Chinese policymakers consider the urban housing market as the main source of housing provision and dynamic economic growth. In general, there are two main reasons for the housing shortage in China:

1. Rapid growth of the urban population;
2. Insufficient funds for housing construction since the Chinese revolution

   In the meantime, the Chinese government has undertaken two major tasks in the housing sector with two different approaches:

1. Focusing decisions related to building and housing assignment.
2. Expansion of housing services with low rent for households, especially in cities, as has been common in all socialist countries. These tasks were pursued in three time periods and with two different approaches:

**Commodity Economy Policy (1949-1957):** This means that housing is a type of service goods that the government should provide to the people.

**Social welfare policy (1956-1979):** During this period, the government was responsible for providing, producing and maintaining residential units. While creating inequalities, this policy

also imposed a high cost on the government (those with larger houses received more subsidies).

**Transition of social welfare policy to commodity economy policy (1979 onwards):** This period was the era of revision of housing policies by the Chinese government. In this revision, which is known as the commercialization of the housing sector (not in the sense of capitalizing it), includes the correction of the rented houses situation, the sale of governmental residential units (not governmental land) and the permission to build to individuals and cooperatives.

Compared to the growth of urbanization and migration of rural labor, China's urban housing reforms experienced a more complicated situation due to the sensitive issue of land and housing. Before the reforms and policies started in 1978, there was no urban private housing in China. Until after 1978, with the transfer of governmental land and the existence of labor, the housing distribution policy in China progressed slowly, and in the middle of

1990, the reform of the urban housing system was considered. According to the urban housing reform in China, the policy of "government-sponsored housing provision" was transformed into the policy of "housing market as a commodity" and due to this change, the cost of urban housing in China increased rapidly. So that before 1995, about 80-90% of investments in the housing sector were made by the public sector, but this share decreased to less than 50% in 1995. The idea of establishing the "Forward-Looking Fund" in 1994 across the country has been an important policy to facilitate the transition of housing from a welfare item to a commodity.

Another policy presented in China in the field of housing provision is the policy of providing affordable housing for citizens. Recently, the "Comfortable Housing Project" has been launched in China, which deals with the construction and sale of apartments for low-income families, especially homeless people. An important

milestone in the housing reform was Decree No 23 of the Chinese government in 1998, which allowed work units to develop housing

units for their employees and as a result, in 2001 the rate of private housing increased to 80% and almost doubled in Shanghai.

In general, the proposed policies in China's housing sector are as follows:

**Extra Care Housing(ECH):** It was launched in 1998 with the aim of helping middle and low income families.

**Housing Provident Fund(HPF):** It was established in 2001 as the National Housing Program and its purpose has been to promote home ownership. These funds have low interest rates.

**Committee for the Right to Housing(CRH):** This plan was prepared with the guarantee of implementation from 2009 to 2011 and with the aim of providing housing for low-income people, the disabled, disadvantaged groups and the elderly and providing 7.5 million houses for low-income people. Of this amount, three quarters of the houses were newly built and one quarter are rented through subsidies.

Over the years, China has provided large amounts of affordable housing for its citizens. Before the landmark reforms in 1990, Providing housing to the majority of families was done by their workplaces or by the municipality. As mentioned, after that, in 1995, the "Comfortable Housing Project" was launched. And affordable apartments were built for low-income families, especially those who lacked housing or lacked suitable housing. In 1998, the "Comfortable Housing Project" was revised and renamed to "Affordable and Comfortable Housing" in order to reduce costs. In 2001, the Forward-looking Housing Fund was established to help families and to save for home ownership and until 2003, they helped 2.4 million families. However, this program was intended to reduce the cost of housing for low-income people. But the desire of households with high income to buy these houses increased the costs and created restrictions for the ownership of households with low and medium income. However, the case of Bangkok shows that

private sector participation to provide affordable housing for low-income people is possible and can be a good example for other

countries. A recent policy pursued by the central government in China is that state-owned real estate agencies are required to monitor land development for two years, and otherwise the government has the right to repossess the land. Of course, this policy is contradictory to the accepted economic concepts in China.
In recent years, housing prices in China, especially in big cities, have increased significantly. Data from the China Statistical Yearbook (1998-2012) show that the average housing price (per square meter) increased by 16% in 1997 and 7% in 2011. It is estimated that housing prices in the cities of Chengdu, Hangzhou, Shanghai and Shenzhen between 2003 and 2010 have increased by at least 10% per year and in Beijing by nearly 20% per year during the same period. The increase in housing prices has led to serious concerns about the occurrence of a housing bubble, which naturally causes serious damage to the country's economy. In the meantime, the Chinese government implemented several policies, including the policy of providing governmental lands, to reduce the fever of the real estate market.
The implementation of three housing programs "Affordable and Comfortable, Future Housing Fund and Cheap Housing Rental" showed that China has carried out reforms and organizational capacity at all levels of affordable housing on a large scale with political will. And it became clear that China needs the integration of institutions from the scale of the central government to the local government in order to respond to the housing needs of low and middle income families and housing programs are an integral part of national and local economic policies. Another policy implemented in China is the privatization of public housing. This is done through transfers to tenants (for free, coupon, or sales and a nominal fee). Privatization of housing is a good way to provide suitable and cheap housing in some countries, including China. By implementing this policy, China has one of the highest home

ownership rates in the world. Among the things done for the success of this policy are:

Monitoring and evaluation mechanisms were implemented by local authorities or other members for greater assurance, transparency and quality control in sales and transfer programs.

Agencies related to public housing were bound to provide sufficient information to assure the beneficiaries.

It was obligated to provide the capital requirement by the housing agency before the transfer and budget.

Residents' participation in this process was provided.

In particular, the country's emerging economic strength has been the most important factor in the supply of affordable housing for low-income people in China. In fact, adequate and affordable housing access is possible for all groups of people, if the government actively implements these policies and strategies and most importantly, strong and consistent political will is needed.

**• Housing policies of South Korea**

In 1945, Korea was freed from Japanese colonialism, and divided into North and South Korea. At this time, Korea's GDP per capita was 50 dollars and it was considered one of the poorest countries in the world. During this period, 90% of Korea's population lived in rural areas and Korea was basically a rural society. And although the quality of housing in Korea was poor, there was no acute housing shortage in the country.But with the start of the Korean War (1950-1953), about 515,000 houses were destroyed. In addition, more than one million houses were damaged. Since 1962, followed by economic development, Korea has transitioned from an agricultural society to an industrial society, and rapid urbanization has taken place in this country. Rapid urbanization in South Korea has led to a mismatch between supply and housing demand, housing price inflation, and speculative activities in this sector. Housing prices in this country reached their peak in the late 1980s.

**Wide supply of housing with an emphasis on the stability of real estate prices:** In 1970, the government approved a ten-year house construction plan for 2.5 million units. In line with the acts of this plan, 1 million units were built in the period of 1972-1976 and 1.5 million units in the period of 1977-1981. In 1972, the "Public Housing Law" was repealed and replaced by the "Housing Construction Promotion Law" (HCPL). The purpose of this law was to produce planned housing and define regulations for housing construction. The central government and local governments, Korea National Housing Corporation (KNHC) and Korea Land corporation (KLC) were responsible for the implementation of this plan. Following the continence housing shortage, the Korean government started building two million housing units between 1989 and 1992. The wide supply of housing followed the stability of housing prices until 1997 and also helped lower housing prices. However, during the statesmanship of Kim Dae-Jung's government from 1998 to
2003, housing prices increased by about 40. After that, the new government in 2003 prioritized stabilizing the housing market and restrain speculative demand percent. Logrand and Robinson argue that inefficiency created in the housing market are due to incomplete information being provided to consumers.

In general, housing policy in South Korea is very different from Western countries. In 1997-8, Korea was in the changes of the Asian economic crisis and called for political reforms, especially housing policies inside and outside of Korea. The South Korean government evolved the concept of community participation in its housing policies and put it in the center of his plans to provide public services effectively. In particular, government intervention aimed at price stability in the housing market has been a popular method for the Korean government over the past few decades. Since Korea has experienced significant fluctuations in the housing

market over the past few decades, the government has intervened directly to stabilize and reduce the range of fluctuations in the

national economy. In this country, the government plays a major role in the development and allocation of housing. A high degree of government involvement in providing housing through the granting of ownership rights or through the provision of land, has been done by providing policies to encourage construction with the help of larger and more efficient companies, as well as monitoring and controlling lending. Like other East Asian countries, the housing system in South Korea is focused on expanding home ownership as part of the economic growth process. The government promotes rapid economic development on the assumption that increased income can be channeled into public services and social spending, including housing. Housing policy in South Korea is in the hands of economic powers and is focused on providing housing for the middle class. During the financial crisis since 1998, Kim Dae-Jung's government has taken significant measures to stabilize the real estate market. But the deregulation policies of his government led to a decrease in housing supply and an increase in housing prices. During 2003-2008, the collaborative government announced that it would introduce multiple real estate and housing policies to facilitate housing price stability but, in 2007 he claimed: that the government lacks coherence in controlling the speculative demand of the market in order to stabilize the real estate market. It was believed that the system needed to involve the people in order to make things better and also to cure some of the previous failures. As a result, a new government named "participatory government" was formed. The new government showed an increasing interest in promoting social participation in strategies and the cooperative government replaced the previous government. Community participation was seen as an effective way to enable people to influence their lives by participating in decision-making processes. The government itself was also involved in reducing the housing shortage, although it was still

dependent on the market in providing housing. Until 1990, the idea based on community participation believed that encouraging

work with people would help the progress of housing renovation projects or specific programs. However, people had limited power in the decision-making process. The real estate and housing policies of the new Korean government consist of three parts: Increase in housing supply, decrease in housing demand and decrease in housing prices. The increase in housing supply was done by supporting the construction of public housing projects. Also, the government considered incentives to encourage the private sector to buy and rent residential units. In addition, to limit speculative demand, the allocation of mortgage loans restricted individuals. Economists, urban researchers and government officials are interested in determining housing prices in micro terms and determining macroeconomic variables and providing public policies. While microeconomics focuses on factors related to supply and demand for housing, macroeconomic factors include: money supply, new housing construction, and interest rates.

**Housing provision policy for low-income people:** Like many other countries, home building programs for low-income groups in South Korea are mainly divided into two parts. Supply side program and demand side programs. The major type of supply-side programs is Renting public housing for low-income families and in 1998, the public program for permanent house rent was launched on behalf of a social tradition for low-income worker households in South Korea. According to the 2000 census, nearly a quarter of all households (23.4%) lived in dwellings that met minimum standards in terms of land conditions and basic amenities. In order to deal with low-income housing problems, the government prepared a 10-year public housing supply plan with the construction of 1 million housing units between 2003 and 2012. Also, in this context, the government approved five measures to ensure the provision of reasonable and affordable housing for low-income groups: First, the Korea National Housing

Corporation was established to produce maximum low- cost housing. Second, the National Housing Fund was created to

provide long-term funding for low-cost housing. Third, in order to maximize the production of low-income housing, the government introduced small-sized buildings. Fourth, the renewal of urban projects was introduced in order to improve the quality of housing and the environment. Finally, the rent law was passed to protect the tenant.

In a time, category, the actions of the Korean government in providing housing can be presented as follows:

**The years 1972- 1976:** The Korean government recognized housing as one of the basic dimensions of welfare. But in practice, the lack of resources prevented major developments in this field. At the same time, the National Physical Master Plan (1972-1981) was approved with the goal of producing 2.5 million units in 1981. However, the first oil crisis at the end of 1973 led to a sharp decline in housing construction. So that in 1975, investment in the housing sector decreased and reached 3.6% of the gross national product.

**The years 1977- 1981**: Although the government made more efforts in the field of housing production, but only 86% of what was planned was completed. And the ratio of housing supply actually decreased to 72.7%. In 1980, under such conditions, housing prices rose again.

**The years 1886- 1982**: Housing construction expanded. Despite this, the increase in housing demand led to an increase in housing prices. During the first two years of the planning period, inflation was stabilized and the housing construction plan was revised. However, the actual level of housing construction was 1,551,000 units, or 80.7 percent of what was planned, and accordingly, the housing supply ratio decreased in 1985.

**The years 1991- 1987**: Priority was given to housing construction. The most notable achievement of this attention was

the construction of two million units in order to reduce the housing shortage. Since 1988, this project has succeeded in

providing a large number of housing for different groups of people. As a result, the cost of renting a house for low-income families decreased. Small houses were produced for middle- income families of the same group. Also, in the implementation of this program, the policy of using the "National Housing Fund" loan by the private sector budget was used. Both the way of using this budget was carefully planned and the role of the government and the private sector was clearly defined in it.

With the strong commitment of the government, the construction project of two million houses were achieved in 1991. As a result, the ratio of housing supply increased rapidly and house prices began to decrease (Korea Research Institute for Human Settlements 1992). In this project, the housing construction industry grew and 600,000 units were produced between 1988 and 1992.

**The years 1992- 1997**: About half a million new houses were produced. At the same time, since 1997, the independence of local governments has increased and their role in housing construction has been strengthened. Besides this, the private sector was given more freedom for construction. As a result, with the production and increase of governmental housing, the problem of housing for low incomes decreased. Unfortunately, from this time on, the housing construction industry faced the new challenge of financial crises, and as a result, the speed of housing production also decreased.

**• Housing policies of Malaysia**

In 1957 and before Malaysia's independence, the concept of government housing in this country was known as "organizational district". Based on this concept, the British government had provided housing facilities for classes such as British employees who worked in public institutions such as hospitals, schools and offices and the region. After Malaysia's independence, the concept

of government housing was proposed as a vision for the government with the aim of providing housing for all sections of the society.

The main goal of the Malaysian government from this perspective was to achieve rapid economic growth.

**Urbanization and national development in Malaysia:**

One of the important factors in the urbanization process of Peninsular Malaysia was the implementation of the "New Economic Policy" (NEP) in 1971, which, along with the influence of other factors, led to the rapid migration of the rural population to urban areas. In 1957, 11.2% of Malaysians lived in urban areas. However, this rate increased to 25.2% in 1980. The increase in urban population that occurred in the 1970s is mainly the result of the Malaysian government's promotion opportunities that encouraged people to participate in activities in urban areas. So that you type text or a website address or translate a document. By 1990, Malaysia's urban population had increased to 45.6 percent. A similar trend was predicted for the period 1991-2000. As it was estimated that by the year 2000, 50% of the total population of Malaysia will live in urban areas. Increase in the number of urban population - six times more than at the time of independence - was a changing element in Malaysia's urban geography which led to measures such as land development and also the creation of new facilities in urban areas. The continuous migration of the rural population to the cities created great effects on the big urban centers, especially in providing basic infrastructure for the immigrants. It was at the end of 1970 that it became clear that in many urban areas, the supply of housing did not match the demand for it, and as a result, many newcomers to big cities were forced to live in illegal settlements.

**Problems of the housing system in Malaysia:**

Malaysia has made great strides in meeting the basic housing needs of its citizens. Housing problems in Malaysia are caused by the rapid population growth in this country. In its various development programs, the Malaysian government has started housing programs in

urban and rural areas with the aim of making people own homes. One of the housing policies in Malaysia is that the government puts

a lot of pressure on providing affordable housing, especially for low-income groups. Based on the theoretical framework of housing studies in Malaysia, the discussion on housing issues in this country is related to the three main issues of consumption, exchange and production. Surveys show that the main problem of housing in Malaysia comes back to the consumption sector. Since one of the important aspects of housing consumption is the housing price, financial policies are introduced and implemented in order to deal with the problems related to the housing price. In general, the issues related to housing in Malaysia include the following four:

Policymakers in Malaysia believe that housing prices should be immediately included and defined in the agenda of national housing policies, Because there is no precise definition about housing price in this country, and usually, the issue that is always raised in housing construction is the high price of housing. The results of a survey show that in Malaysia, more than 30% of people's income is spent on house rent and bank loan repayments, and house prices are very expensive and not in line with people's salaries. Of course, this sharp rise in housing prices can be seen in many rapidly developing countries. Naturally, when housing prices increase, the market becomes very attractive to investors, which can naturally lead to a market stagnation or even an economic recession. Again, naturally, companies have nothing in common with the real estate market when prices are rising, as a result, there is an imbalance in the market for property owners and sellers. So that, sometimes these companies even stop their activities in the development of housing projects or in some cases, housing projects are built without permission. All these factors have caused problems in the field of housing in Malaysia. In other words, we can say: the main risk in the Malaysian housing sector is the change in demand. In such a way that if it is transferred to lower rates, it can delay the repayment of the loan, thereby causing additional interest and debt for the

developers. Another issue in Malaysia's urban housing sector is that although public companies are expected to play a major role in the

construction and distribution of low-cost housing for low-income groups; But, they often produce above-average or high-cost housing. The private sector also manages to complete only a small part of its goals in relation to low-cost housing and the builders of this sector have more tension to build middle and high class housing. In fact, housing construction companies are unable to cope with the technical challenges of industrial construction. Because with the increase in the price of raw materials such as cement, rebar, steel, brick and wood, their ability to build cheap housing is affected.

**Malaysia housing policies**

Construction of governmental housing is an important element in Malaysia's national housing plans. In fact, this program is designed for all groups of communities regardless of their race and in order to eliminate slums and illegal dwellings, as well as to solve other social and economic problems related to the rapid growth of urban centers in this country.

**Construction of low-cost housing for low-income groups:** The Malaysian government in its 8th five-year national plan that was implemented between 2001 and 2005, considered the plan to provide housing with low, medium and high prices. Of course, the main emphasis of this plan was to build affordable housing for low-income groups. And since 1957, pursued the provision of this type of housing through the formation of economic development cooperatives as well as various urban development organizations. Also, to ensure that these houses are available to the target groups, that is, the low-income classes, the government considered the registration system for the buyers of these houses so that the rich could not buy them and disturb the prices and the housing market.

**Planned housing:** Another policy of the Malaysian government to solve the housing problem is the production of "planned" housing. In the Seventh Plan, the government had proposed up to

800,000 housing units, consisting of 35,000 units for poor people, 200,000 units for low-income people, 350,000 units for low- to middle-income earners, 130,000 units for middle-income earners and 95,000 units for people with high income.

In general, housing policies in Malaysia can be categorized into five periods:

1. **First period - construction of residential complexes:** This policy dates back to before 1957 before the independence of Malaysia. During this period, the government played the most important role in the construction of housing and "construction of residential complexes" for about 500,000 people of the country's population, who were mainly government employees. Of course, during that period, efforts were made to provide housing for low-income groups in the cities.
2. **The second period - provision of cheap housing by relying on the role of the private sector:** Between 1957 and 1970, almost the same policies of the previous period were repeated, but the role of the private sector in building housing for low-income groups living in cities increased. After independence, the Malaysian government tried to expand welfare infrastructure. During this period, the private sector mainly built houses for urban people with medium and high income. In these years, the first and second national programs of Malaysia were implemented. In the housing sector, the government still placed the highest emphasis on "providing cheap housing".
3. **The third period - Providing housing for low-income people along with reducing poverty and controlling the rental market:** It continued from 1971 to 1990, in which the Malaysian government formulated and started implementing the "elimination of poverty and reconstruction of social and economic infrastructure" project. In this era, the concept of suitable housing for various human needs was proposed for the first time

in the housing development plan of Malaysia. Also, "providing housing for low-income people" became a national

priority. Due to the massive migration of villagers to cities, providing housing was an important issue and the private sector should have put more emphasis on building cheap housing. In this period, three other five-year national programs were implemented in Malaysia. In addition, the Malaysian government, which has a federal structure, in which the policies for organizing the housing market and, consequently, the rental market has local nature, and each state has its own specific rules and regulations. In the period of 1980-2000, the government obliged all owners of land with an area of more than 4 thousand square meters to allocate 30% of their construction to the construction of low-cost housing. These units can flow into the rental market or the real estate market.

4. **The fourth period - building housing for low-income people and controlling the rental market:** During this period, which lasted from 1991 to 2000, the Malaysian government implemented the 6th and 7th five-year national plans and continued the general policies of " Housing construction for low-income people". During this period, the emphasis was on sustainable development, and according to it, all people with any income level should live in suitable housing. In these 10 years, the role of the private sector in providing housing became more significant.
5. **The fifth period - providing housing for all social classes with an emphasis on sustainable development:** It started in 2001 and continued until 2010. In this period, sustainable urban development and provision of suitable housing for all income groups of the country were emphasized and all housing development plans are formulated and implemented in accordance with other government policies, including industrial and commercial policies. In this period, the government plays a

role in providing cheap housing and the private sector plays a role in building housing for middle and high income classes.

Nevertheless, Malaysian housing experts believe that the government has not been very successful because the statistics show: However, construction of high- and medium-priced housing has grown by 250 percent over the past five years. However, in the construction of cheap housing, the growth was only 27%. In this way, with the continuation of this process, the class gap will get deeper. The incompatibility of the supply and demand of cheap housing, the disinclined of a number of builders to build this type of housing, the slow process of amending construction regulations and the lack of integration of solutions and designs for building cheap housing are among the important challenges of the housing sector in Malaysia. Experts believe that responsible governmental organizations in Malaysia have been associated with poor performance in providing services and inefficiency.

**• Housing policies in Singapore**

Singapore is the smallest country in Southeast Asia with an area of 692 square kilometers and a population of 5,312,000 million in 2012, Singapore does not have an urban-rural duality unlike many of its Asian neighbors and it has grown by planning. Like many developing countries in the world, the housing problem in Singapore has two main aspects:

First, the lack of suitable, affordable and sufficient housing to meet the needs of the growing urban population. Second, the production of housing by the private sector has been beyond the financial capacity of low-income families. As a result, it is increasingly clear that the government should intervene to provide reasonable and affordable housing for low-income people, which, of course, has been successful in this way as well as promoting home ownership. Considering its limited area, Singapore has chosen a high-density development policy to accommodate its growing population. Since in many developing countries, the lack of land has hindered the

implementation of governmental housing programs, the government has been allowed to compulsorily acquire land for the purpose of

building public housing, with the aim of reducing the cost of providing housing. The second factor that has contributed to the provision of public housing in Singapore is the country's financial situation. During the period 1965-1986, Singapore achieved the highest average GDP growth rate in the world. In the 1980s, Singapore became one of the four newly industrialized countries in Asia. And since then, the country's income has increased and economic conditions have led to the successful development of public housing in Singapore.

**Housing ownership promotion policy in Singapore:** There are several factors supporting the high rate of ownership in Singapore. Not only has Singapore's national housing policy been successful in solving the housing crisis, it has also promoted home ownership. One of the distinguishing features of public housing developments in Singapore is the high degree of home ownership. 81% of public apartments have owners. Home ownership in Singapore is seen as a commitment to the nation, especially for low-income groups. According to Singapore's ownership plan, those who are eligible to buy housing are: firstly, they do not own a home, and secondly, their monthly income is below a certain ceiling. In order to preserve the values of the family as a social institution, the government has considered other criteria for qualifying families to buy housing, which are mentioned below:

1. Priority plan for granting and assigning housing to applicants with three children.
2. The priority plan to assign housing to families that have three generations (this plan is to encourage the care of elderly people in the family)

**Financing policy and housing loans:** In Singapore's housing provision, the Housing and Development Board (HDB),

established in 1960 to implement large-scale public housing programs, provides financial assistance in the form of loans for

housing development. The production of government housing in Singapore is through its financial conditions within the country and without resorting to external financial sources. According to the latest statistics published by HDB, 87 percent of the homeowners have received their units through mortgage loans. In order to facilitate home ownership, this institution has provided these facilities with interest below the market price. In this way, it was possible to buy a residential unit without difficulty and reducing monthly income.

Also, in its 8th five-year national plan, which was implemented between 2001 and 2005, the Malaysian government has emphasized the construction of low-cost housing for low-income groups. In the next levels, the land market control policy, rent control policy, the policy of construction and supply of rental housing, social housing, as well as Thatcherism policy, the policy of building rental housing units hire purchase and the policy of industrialization of housing production in urban housing supply programs have been used in these 4 countries.

The housing problem in all the studied countries is quantitative (lack of housing) and qualitative (unsuitable housing) due to the rapid growth of urbanization and living in unsuitable and border areas of the cities, which has caused these countries to face the problem of housing price increases. In East Asia, providing housing is considered one of the most important investments throughout people's lives, and people consider housing as a factor to ensure security in the future. Housing policies and programs across Asian countries have varied over the past decades. Reports showed that lack of affordable access to land is a major obstacle to increasing the supply of affordable housing in Asia. This crisis has different characteristics in different countries and regions. What is clear and obvious is the increasing difficulty of obtaining suitable and affordable land and housing for a large

number of people whose large population and housing demand have created a crisis and challenge in the housing sector.

By using the experience of countries that have been successful in providing housing to their communities, it is possible to obtain suitable solutions for providing housing. According to the policies used in the countries under review, the following can be mentioned from the successful experiences of housing provision programs in Asia:

In these countries, cooperative housing has been considered as the dominant approach, which is produced through the government or by the private sector in the form of providing suitable and affordable housing.

The main emphasis of housing construction projects in these countries has been on providing cheap housing, especially for low-income groups.

Privatization has been emphasized in the production of suitable and cheap housing.

Facilitating access to financial resources and reducing construction costs have been among the policies considered by governments in providing housing in the countries under review.

Reforming the situation of rented housing, selling government housing units and allowing construction to individuals and cooperatives have been other experiences of these countries in the field of housing provision.

The creation of futuristic housing funds with the aim of owning households is in the focus of the government's attention.

Promoting the increase of household income and as a result the promotion of public services and social expenses have been among the goals of the programs of these countries.

Governmental subsidized units have been sold to tenants.

Public and private sector partnerships are organized.

Increasing the supply and controlling speculation in the housing market has been done through price control as well as the purposeful assignment of built units.

Encouraging private sector investment has been done through a wide range of financial incentives.

Participative and unfocused approaches have been used which have led to an increase in joint investment of public and private sector.

Governments have focused on increasing the right to own housing. The economic growth of these countries has had a positive effect on the performance of their housing sector and finally, the relative success of these countries is due to the fact that housing programs are an integral part of their national and local economic policies.

Therefore, the intervention of the government is necessary in order to adjust the population and proper distribution of housing in order to implement social justice in every country and these policies should be accompanied by increasing public participation in planning and providing social services, especially for the disadvantaged group.

## Urbanization process in Iran

The results of the general population and housing censuses in Iran show that the trend of increasing the urban population and the number of cities in the country has enjoyed rapid growth over the past 55 years. The urban population of Iran has increased from 5953566 people in 1335 to 53646661 people in 1390. That is, in the last. The ratio of the urban population to the total population of the country has also changed from 31.4% in 1335 to 71% in 1390, and the number of cities has changed from 199 cities to 1331 cities 55 years, the urban population of Iran has increased 9 times. In this way, urbanization and the growth of the number of cities in Iran have enjoyed a rapid annual growth in the last half century.

In this way, urbanization in Iran has enjoyed a fast and growing trend in the last half century, just like the countries of East and Southeast Asia that were investigated and there is an imbalance in housing supply and demand, and of course, the urban society of Iran

has been facing the problem of housing shortage in the past decades.

**Suggestions for developing housing policies in Iran**

Housing planning in Iran was started in the form of partial plans and from the third program of economic-social development of the country before the revolution. A look at the content of these programs has shown that governments have paid attention to the issue of providing housing, especially housing for low-income and socially vulnerable groups, during the past 5 decades. In addition to the quantitative goals and the adoption of policies related to it, and especially in the programs after the Islamic Revolution, the government has also considered the goals related to the qualitative improvement of housing. In addition, in order to achieve the goals of the housing sector of the fourth plan, the issue of preparing a comprehensive housing plan for the entire country, followed by preparing a comprehensive housing plan for the provinces, was put on the agenda. In the comprehensive housing plan of the whole country, the perspective of the housing sector is depicted as follows: "Developed; based on social justice; based on ability in production, science and technology; Beneficiary of favorable environment; And finally, having a constructive interaction with the world. Now that the government's focus is on the quantitative and qualitative increase of urban housing, it is appropriate to use appropriate policies to achieve them in accordance with the vision and ideals (goals) of the housing sector.

# Chapter Seven

## Examining the importance of housing in economic development

According to the report of the World Bank, about 40% of the country's investment is allocated to the housing sector every year. Investment in the housing sector includes 8% of Iran's gross domestic product. According to this report, 11% of the country's employees work in the housing sector. Also, more than 20% of the country's GDP is allocated to the housing sector. Residential investment accounts for a significant part of national capital formation and based on Mayo's theory (1999) in the stages of economic development, the share of residential investment in the gross domestic product first increases, reaches its peak, and will decrease in the stage of development. Also, the share of residential investment in the total national capital formation reaches more than
40% and this shows the important role of housing in economic growth. Some researchers believe that investment in residential buildings can have a greater effect on economic growth compared to non-residential investment.
Instead, Mills (1987) concluded in 1987 that the effect of investment in residential buildings on economic growth is less than

that of investment in non-residential buildings. There is no consensus among scientists about the cause and effect relationship between economic growth and investment in housing.

While Green (1997) considers investment in residential buildings to be the Granger cause of GDP growth, at the same time, he states that non-residential investment is not the cause of GDP. Coulson and Kim (2002) using the VAR model and reaction functions, concluded that among the components of GDP, residential investment is the only component that has a significant impact on consumption, which is the largest component of GDP. Based on the analyzes of reaction functions, residential investment shocks have had a greater impact on GDP than non-residential investment. Therefore, there have been many studies on the relationship between residential investment and economic growth, and there are many differences in terms of the amount and significance of the effect.

According to Andersson and Turner (2005), investment affects economic growth through 5 important channels. An increase in demand leads to an increase in prices and encourages investment, which in turn leads to the growth of production and employment in the housing sector, and finally to the total demand and GDP. The effect of increasing the profitability of housing investment attracts new investors to the housing market and investment will increase. As supply increases and other factors remain constant, housing prices will decrease, which will result in two consumption effects and wealth effects and with stable income, the non-housing expenses of households increase and as a result, aggregate demand rises. On the other hand, the decrease in price will reduce the housing wealth of households and can reduce the total demand and economic growth. The effect of housing investment on labor productivity and as a result strengthening economic growth is another important axis that has been investigated in the studies.

Investment leads to economic growth if it can increase productivity. Maine defines the effect of productivity through government

interventions in the housing market and encouraging investment growth because suitable residential space can play an effective role in improving labor productivity. On the other hand, the mismatch between the labor market and the housing market will reduce labor productivity and economic growth. Since investment in general and residential investment in particular is considered as one of the powerful tools to encourage economic growth and as a result to achieve the goal of macroeconomics, i.e. achieving full employment, therefore, the study of the real impact of various types of investment on economic growth and analysis of the sources of economic growth in Iran is of particular importance. The main purpose of this study is to analyze the relationship between residential and non-residential investment and economic growth and to estimate the final effects, tensions and estimate the contribution of variables as a source of economic growth in Iran.

## The relationship between residential investment and economic growth

There are two important points of view regarding the relationship between residential investment and economic growth: The first theory is based on the Keynesian theory, which the government considers employment and total demand as the most important policy tools to move the economy towards general equilibrium. According to this view, if housing investment can change the level of employment or total demand, it is used as a policy tool to improve economic growth. Second, governments can use the neoclassical growth theory that emphasizes the importance of investment and savings in economic growth to justify the use of public payments in housing investment. According to this discussion, if residential investment can improve productivity in the economy, it will be considered.

## Housing investment and economic growth in Iran

### - Keynesian approach

In the Keynesian approach, government employment and aggregate demand are seen as the most important policy tools to move the economy towards general equilibrium. To explain the effects of housing investment on economic growth based on the Keynesian approach in a simple housing market model, the discussion starts with new construction. In the simple model, it is assumed that supply and demand are relatively elastic. The increase in demand increases the price level in the housing market and increases the investment profit and thus increases the amount of investment in this sector. Assuming that the level of technology in this sector remains constant, the increase in investment will increase the level of employment and consequently increase the total demand in other economic sectors. According to the Keynesian approach, an increase in housing demand leads to an increase in housing investment and ultimately to strengthening economic growth through an increase in employment and total demand. In times of recession, increasing investment through increasing employment and total demand can be used as anti- cyclic policy tool. In addition to the cases that can be explained through other channels, housing investment can also strengthen economic growth. For example, if there is a possibility of profitability in this sector in the future, most investors will be attracted to this sector in the long term and the housing supply curve will shift upwards which will result in lower prices and more housing stock. Lower prices reduce household payments for housing, and at the same income level, households can pay more for other consumer goods. This indicates the positive price effect of investment in the housing sector on consumption, as a result of which the total demand will also increase. Also, for households, this price reduction will mean a decrease in their housing wealth. Therefore, due to the wealth

channel that affects consumption, the price effect of housing investment can be

negative. Therefore, according to the stated content, it is clear that the effect of residential investment is positive through the price effect on economic growth, and negative through the effect of wealth.

Another channel that explains the relationship between residential investment and economic growth is the mismatch mechanism between the production market and the labor market. If the production market in equilibrium condition is faced with an increase in demand for manufactured products in a region, the demand for labor will increase. Now, if the quantity and quality of the workforce is not suitable in this region, the need to migrate from other regions to this region is mandatory and it will increase the demand for housing. If the supply of housing is inelastic and immigrants cannot get the housing they need, migration will not happen and there will be a mismatch between the two markets. Therefore, regional products will not grow. The increase in residential investment reduces this mismatch and increases the quality and quantity of products and as a result, it causes economic growth. It can also be assumed that residential investment affects production factors by improving housing conditions, which in turn affects human capital and thus improves economic productivity. Based on the discussions presented, the relationship between residential investment and economic growth can be expressed as follows:

1. Residential investment has a direct impact on economic growth through employment.
2. Residential investment has anti- cyclic effect on economic growth
3. Residential investment affects economic growth through influencing housing prices and thus household consumption.
4. Residential investment affects economic growth by reducing the mismatch between the housing market and the labor market.

- Neoclassical approach

Neoclassical growth theory emphasizes on the importance of impact investmenting and savings in economic growth. According to this theory, if residential investment can improve productivity in the economy, it will be considered and since housing investment can change housing conditions, it also changes productivity in the economy and therefore affects economic growth. According to the neoclassical theory, economic growth can be enhanced by increasing productivity, which is shown below with a simple production function.

## Global review of the role and importance of housing

According to the report of the Third World Urban Forum; The world is facing a global housing crisis. In cities around the world, nearly 1 billion people live in undesirable housing without clean water or adequate sanitation. More than 14 million refugees and internally displaced people live in tents or other temporary shelters. Millions of homeless men, women and children live on the streets of Washington, DC. Sao Paulo, Brazil; Johannesburg, South Africa; Mumbai, India; And in other cities, the problem is getting worse: Every week, more than one million people are born in or move to cities in developing countries, increasing the need for new and better housing. The international response to the housing crisis has been muted. While many international donors have helped to development of effective models for housing policies and programs, the scale of their application has not been large enough to significantly affect housing outcomes. Many international institutions have turned away from the housing sector in the last 15 years. Some successful programs were not widely replicated, while others were lost as financial aid shifted to other priorities. The result was aid strategies that missed important opportunities to advance

economic, social and civil development. And many national and local housing agencies have not maintained the commitment or

level of sustained intervention needed to make a substantial difference in housing outcomes. The result is a growing crisis. Housing is a key input in economic, social and civic development. Many housing-related activities directly contribute to the achievement of broader socio-economic development goals. Housing investment remains valuable and a major economic driver, both in developed and developing countries. In the United States, it is estimated that housing directly accounts for 14 percent of gross domestic product (GDP) and generates another 6 percent in downstream expenses. Granting housing loans helps to develop primary and secondary financial markets. All over the world, and especially in low-income countries, housing construction creates job opportunities for migrants to cities. Legalization of informal settlements and registration of housing and other immovable property helps to "open" fixed capital for productive investment and establishes local property tax bases.

It is generally accepted that the well-being of individuals and families is greatly affected if the need for satisfactory housing is not met. Unmet housing needs may lead to bad health outcomes and increase the financial burden on the health care system. It also usually results in a significant reduction in educational opportunities while other less essential activities, including cultural, recreational and leisure activities, are dramatically suppressed or reduced altogether. Additionally, unreasonably high housing costs prevent skilled labor from moving into the community, causing lower-wage workers and high school students to consider migrating to other communities with lower-cost. As a result, both business concerns and educational institutions in the community will be affected. Due to its connection with the well-being of a person, it is not surprising that for most people around the world, owning a home has the greatest importance and value. Traditionally, home ownership has a special place in people's psyche because it is considered both to stabilize family life and create wealth.

Housing has become the determinant economic issue of our time. In addition to being a basic need of a person, housing is considered an economic engine for low-income families, because it plays a vital role in the growth and development of the family, society and country. For many low-income families, a home is more than just a shelter. This has given them the opportunity to work outside their comfort zone and change their lives for the better. Sustainable and affordable housing is critical for breaking the cycle of poverty. A prestigious home opens the door to improved health, better school performance, greater economic opportunity, and increased community cohesion. Imagine what India will look like in 2022, when everyone has a suitable place to live. Failure to achieve that goal would be tragic. Because the reality is that if children don't live in proper homes with proper sanitation, their chances of staying healthy are greatly reduced. If they are not healthy, they will not study. And if they don't get an education, they can't find a good job, which means they can't take care of their families or get out of poverty. Solving the housing crisis is the only way to end poverty around the world. To achieve it, housing should be at the center of sustainable development. (Rajan Samuel).
Looking at the whole field of growth, development and quality of life that a nation gives to its population, housing is considered as the most valuable element. Housing is globally recognized for its complexity and multidimensional implications for nations, society and communities. Adequate housing is still closely related to economic development, job creation, promotion of industries and creating opportunities for the lower strata of society to have better job options in life and overcome poverty. "Housing for all" is the agenda and priority for all governments that are people-centered and committed to promoting public welfare. Inadequate housing is considered as the main cause of inequality, poverty, deprivation of low quality of life. Most of the people do not benefit from the many welfare schemes launched by the government to promote welfare.

Based on this, housing is considered to have several meanings for nations and society, which are briefly mentioned below:

Good housing and the overall economic - social development process have positive relationship with together. In addition to providing security, safety and improving the quality of life, housing creates supportive conditions that are considered human-centered.

Access to adequate and satisfactory housing has long been considered as one of the basic human rights and is an integral factor for enjoying other economic, social and cultural rights. Satisfactory housing includes: legal security of tenure; availability of services, facilities and infrastructure; Ability to live and access to employment, health services, schools, etc. (United Nations Committee on Economic, Social and Cultural Rights).

Globally, there is a severe shortage of affordable housing for low-income families which has an adverse effect on productivity, quality of life, economic growth and active participation in welfare programs launched by various local, national and international agencies. Ensuring safe, accessible and affordable housing for all can be the main driver for empowering the poor and ensuring their active participation in national building for physical, social and economic growth, in addition to addressing major urban damages related to infrastructure, services, health care and unplanned development. Not solving the problems of land and housing distribution in the cities of the world not only threatens

the developing world, but also threatens the stability of the world.

People who have proper housing perform better and have a higher degree of protection against health risks and epidemic diseases compared to people without housing. Housing is known to reduce the pressure on health services by elderly citizens when they have access to affordable housing with supportive services. Like those who do not have access to housing with similar facilities.

The quality of housing is vital for the rational growth and orderly development of a society. The quality of housing is closely related to the quality of the prevailing physical conditions, the quality of the social and physical environment in which the house is located, in addition to the quality of the air, the safety of the house, the available space for each resident and the design of the housing, which are considered vital for human growth and development.

Housing continues to be associated with productivity, operational efficiency, economic development and, in addition to having a major contribution to annual GDP, impacts national and local economies in a variety of ways. While good and adequate housing can increase economic performance and create competitiveness, poor housing can lead to segregation, exclusion, poor environment and spatial concentration of poverty.

Globally, in most countries, housing is considered and treated as an economic commodity, so that the property acts as an asset that accumulates passive wealth for the owner which always leads to the emergence of a productive and permanent lack of housing at any level and puts pressure on this

process. Many people seek shelter in informal markets.

Affordable housing is recognized for its capacity to provide safety, security, identity, space, and opportunity for low-income children and families to maintain their health and well-being. Achieving financial goals and reducing community costs with academic progress and success. Housing remains central to healthy child / family growth and development. Inappropriate housing will affect the mental health of residents for years to come.

In addition to providing shelter and increasing the quality of life, housing is closely related to the general process of social and economic development, creating employment, promoting industries and creating conditions that continue to support the achievement of social goals, including health and education.

Housing remains a key to creating large-scale job opportunities for both skilled and unskilled rural and urban labor.

Housing basically provides a high-quality and valuable space for the family to be together, to interact, play, study, have fun, learn the culture and traditions of the family in addition to learning the behavior pattern and sleep.

Considering that more than 290 types of industries are involved in the production of parts used in building construction, housing is still the main factor of industrialization in any country.

Investing in housing is known to have a multiplicity effect. Generating wealth, promoting economy and employment in any city / region.

Housing has global value due to its capacity, role and importance in promoting public interests and creating a healthy, vibrant and productive society by all nations.

Housing plays a significant role in shaping any society, its quality, culture and economy.

The right to have adequate housing forms the headstone of the global shelter strategy.

The indivisibility and interdependence of all human rights is clearly manifested through the right to housing. Access to adequate, safe and secure housing significantly increases the possibility of people having some additional rights. Housing is the basis from which other legal rights can be obtained. United Neighborhood Houses (UNH).

Shelter is a critical survival mechanism in times of crisis or displacement. It is also the key to restoring personal security, self-sufficiency and dignity.

Adequate housing is universally regarded as one of the most basic human needs. Adequate housing is known as an indicator used to evaluate the growth, development and well-being of a society.

The adequacy of housing and living conditions is still related to the degree of enjoying the right to environmental health and the right to enjoy the highest attainable level of mental and physical health.

Housing is the single most important environmental factor associated with disease conditions and higher mortality and complications. (The World Health Organization).

Housing is a space where more than one third of human life is spent in it.

During the current pandemic, covid-19, the role and function of housing as a space for living, with the addition of functions such as work, physical and spiritual care, education, health care, etc. It has undergone a complete change.

Housing remains the main component of planning, development and management in a city that has the largest share of land and in addition to defining its character / culture, it has the largest number of buildings in the city.

The demand for housing is never static. It is always dynamic, evolving and changing and it is influenced by a large number of social, economic, cultural and physical factors specific to a place and society.

Housing accounts for the largest share of investment in every city.

Most of the trips within the city lead to, and end to housing. Housing is still the focus of all human activities.

Looking at the whole context, housing remains valuable and irreplaceable for individuals, families, society and the government, not only in the social, physical, economic, environmental, civil and psychological contexts, but also for the overall development of nations, at the local level. Globally. Housing is still a great leveler and promoter of justice in society and among people. This effect is multifold and is known as a trigger of happiness. It helps a lot in the development of people intellectually, socially and physically. By improving the human quality index, housing plays a vital role in

enlarging nations and societies. Housing is also known as a health promotion factor. Good housing is

known to save resources in many countries that would otherwise be required to spend money on health care.

Looking at these multiple concepts, World Urban Form III, in its report entitled Housing for All: Essential for Economic, Social and Civic Development, defines the relevance of housing for communities and nations as follows.

housing as a driver of economic development; developed economies; Developing economies include;

The macroeconomic impacts of housing constitute a significant portion of the annual GDP.

Expenditure outside the housing sector

Classification of housing and real estate assets leads to greater efficiency, stability and liquidity of the market

Housing construction in low-income neighborhoods creates an incentive to promote small businesses

More people use their homes as workplaces

Cultural and personal value of housing

Microfinance for housing that may be combined with loans for business development

Housing as a key to poverty alleviation, health, humanitarian relief, and reconstruction

It promotes poverty alleviation

Acts as a strong incentive for savings and investment

Creates additional income from the place of housing rent

Brings people to work

With few other resources, it builds an asset base for the rural poor

Attracts rural migrants

**The health**

Healthy children need healthy homes

Clean housing is vital for the prevention and care of AIDS, tuberculosis and malaria

Crowded houses are breeding grounds for disease

Helping to humanitarian aids and reconstruction

It helps to recover from natural and man-made disasters

Promotes economic recovery and improvement

**Housing as a foundation for democracy, governance and security**

Housing helps to promote social and public participation

Housing needs accelerate civic activities

Acts as a stimulus for community-based organizations

It helps to empower women

It helps in decentralization and democratic process

Experience for elected leadership

Capacity building of local governments

**Security provider**

Economic security

Social security

Community stability

Alternative the settlement of disputes

**The impact and role of housing in developed economies**

The housing sector affects the national and local economy in several important ways.

Housing markets have significant macroeconomic effects.

Home construction accounts for a significant portion of the annual GDP. In addition, housing costs in mature economies react quickly to changes in interest rates. As a

result, the housing market is often referred to as an outgrowth of monetary policy.

Housing creates expenses outside the housing sector itself. Thus, it contributes to the overall strength of the economy. These costs come from two reasons. Housing represents a significant store of individual wealth, and wealth growth is strongly linked to consumption. Housing formation, even without wealth effects, stimulates substantial spending on housing-related and non-housing-related services and goods.

In Western countries, housing and real estate are seen as a distinct asset class. This fact leads to greater efficiency, stability and liquidity of the market.

Housing is the basis for taxation- often local government taxes – and thus contribute significantly to the financial health of local governments and their capacity to provide basic urban services.

**A significant contribution to the GDP**

Due to its extent, the housing sector has a major impact on the macroeconomics of any country. For example, for the year 2000 in the United States, the combination of fixed investment in residential real estate and expenses on housing services amounted to 14 percent of GDP. To the direct costs of housing, costs to support the production and distribution of housing-related services are added: Water supply, wastewater treatment, solid waste disposal, paving streets, parks and other basic elements of urban infrastructure. These account for about 6% of GDP.

**A tool for monetary policy**

Housing expenses of this magnitude has a macroeconomic effect, as housing consumers react to changes in prices and

interest rates. In the US, UK and several other countries, housing prices have risen over the past few years, while their respective central banks have pushed interest rates to historically low levels, so it allows new homeowners to enter the market and existing homeowners to exit. Equity in the form of secured loans by second mortgages or cash- out refinancing of first mortgage. This increase in available resources for consumption has increased the demand for domestic and imported goods, thereby contributing to the increase in GDP. In 2001, consumer expenses increased significantly due to increased home sales and refinancing.

**Wealth builder**

Housing leads to consumer costs through a phenomenon called the "wealth effect." In this regard, housing is not alone. Other forms of wealth such as stocks and bonds also create wealth effects. A recent study in the United States found that the effect of wealth on consumer expenses was about the same for both stocks and housing, but the effect of wealth was realized much faster for housing. Data from this study showed that 80 percent of the long-term wealth effect of housing was realized in one year compared to five years for stock. A study by Case, Quigley and Shiller, which analyzed data from the United States and 14 other countries, also found increased consumer spending due to the increase in housing value.

**A fairer distribution of wealth**

Housing wealth helps to increase consumer expenses because it is distributed more fairly across society than other forms of wealth. In the United States, 2001 data show that 68 percent of households own their homes. Furthermore,

home ownership is not concentrated among the wealthy people. 1 percent of the richest homeowners

own only 13% of the country's stock. This opposes significantly with the figures related to stock ownership: 1% of the richest owners in the country, own 5.33% of the country's stock.

**Impact on the local economy**

US data shows how much housing drives the national economy. The National Association of Realtors reports a ratio of 1.34 to 1.62 for every dollar spent on direct housing activity. Also, according to jobs, for every job in housing construction, 2,448 other jobs are created in other industries. According to some criteria, up to 40% of a household's income is spent on housing. Much of this spending is local, resulting in a stronger local economy. A recent newspaper report on the broader impact of the housing market on the U.S. economy found a positive correlation between housing market growth and increased employment in the appraisal, construction services, architecture, finance, contracting and materials supply sectors.

**Expenses not related to housing**

Housing formation also creates non-housing costs that drive the economy. Most of the expenses are related to family formation. Life cycle costs related to the entry of children into the family are generated by housing formation activities and it follows the costs of clothing, furniture and education.

**Market efficiency, stability and liquidity**

In Western financial systems and some developing economies, housing provides an asset base that contributes

to greater market efficiency, stability, and liquidity. While housing is obviously a shelter and in some cases a place

where work is done. Housing in financial markets is considered as an asset and financial markets have created the necessary complex infrastructure to deal with it. Open information, strong financial systems, and strong institutions all contribute to market stability, which turns activities like speculation into positive effects on macroeconomic and otherwise it somewhat smooths out real estate cycles.

Moreover, real estate assets are not monolithic in a mature economy, but are actually divided into different markets. These different markets follow different cycles. The effects of these cycles on the macro economy will be specific to the market. Western real estate market is more stable and liquid because investment risk in this sector can be covered. Considering the role of housing in capital formation as well as consumption effects (both in the housing sector and outside the sector), as mentioned above, this is of vital importance.

**Support economic flexibility and accountability**

Well-functioning housing markets support flexible labor markets. Because of the ready supply of housing for rent or purchase, US workers can move from communities with a declining economic base to those with job prospects. This has been an important factor in keeping the unemployment rate low in the United States compared to many European countries with weaker housing markets.

**Local government finances**

Housing, through property taxes, makes a significant contribution to the financing of local government and thus to the provision of essential services, such as water, sewage,

transport and education. The traditional basis of property tax is the market value of the property, and as the

price of housing increases, the property assessment increases. The tax base is further strengthened by new construction. The normal share of residential properties to the municipal tax base is 43%. For example, the potential financial contribution of housing to municipal revenues, assuming a tax rate of 1% and an assessment at 100% of market value, during 2001, totaled $185 billion from new residential construction alone. Of course, many jurisdictions assess only a fraction of the property's full value, while in other states, the increase in value is limited.

**Impact and role of housing in developing economies**

Housing is important in developing countries for the same reasons as it is in developed countries. Housing is an important part of the economy of developing countries. The review of housing policy in developing countries by the World Bank showed that investment in housing includes between 2 and 8 percent of GDP and between 15 and 30 percent of fixed capital formation. In addition, housing is a store of wealth. A study of three countries, China, India and Indonesia, showed that more than 40% of the wealth of urban residents in those countries is in their housing. A study of South Korea's housing market shows that up to 55 percent of consumer wealth is in housing, not including land values. Certainly housing provides shelter, but it also addresses other needs of developing countries. Housing is a place for business and provides other intangible emotional and cultural benefits. As in developed countries, housing activities in developing countries have economic benefits beyond the housing sector. Studies in developing countries show the same type of multiplier effect as shown by the US data. Tipple reports that the coefficient

created by housing construction is 1.0, This means that for every dollar spent on housing in a

developing country, another dollar is spent on other sectors. However, this estimate may be too conservative.

**Domestic production with labor force**

Housing in developing countries, especially low-income single-family housing, is generally built with domestically produced goods, resulting in greater benefits to the local economy than using imported materials. Furthermore, research has shown that cheaper housing has actually more labor force than more expensive housing. This means that by building cheaper housing, not only can more homes be provided to people, but more low-wage workers can be employed, which directly benefits them and many others benefit from the multiplier effect.

**Stimulating small businesses**

Researches have shown that housing construction in low-income neighborhoods in developing countries is a provoker for small business creation. Most housing constructions are done by small enterprises, mainly in the informal sector. While some housing is self-built, owners in informal neighborhoods usually assess competitive opportunities when deciding whether to build themselves or enlist the help of small construction "companies" run by relatives, neighbors, or other members of the local community. Using small firms gives these firms an opportunity to gain market experience and develop the capacity to take on larger jobs. Due to the continuous migration from rural areas, the need for housing continues to expand, which leads to more opportunities by these small companies to build housing.

**Home based income opportunities**

People in developing countries mostly use their homes as workplaces, and by providing a home, the potential for creating more job opportunities increases. In fact, Perlman identified six additional functions of housing. For him, housing functions as a shop, a factory, a source of rental income, a financial asset, an entry point into the urban economy, and a storage space or warehouse. In Asia, housing is considered as a unique socio-economic asset by households, and many Asian businesses see their real estate holdings as having strategic importance beyond just a physical place to do business.

**Cultural value of housing**

Exactly the role of housing is more than shelter that makes market-oriented approaches somewhat difficult in some parts of the developing world. While in many Western countries housing is seen almost exclusively as an asset, the situation is much more nuanced in other cultures. For example, some African groups place a high and personal value on housing, which they do not sell. Cultural differences and informal settlement systems also suggest that other Western reforms—developing a secondary mortgage market, municipal bond financing, improving financial markets, better regulation and supervision of banks, and bankruptcy and expropriation reforms-may require different approaches.

**Reopening property value in housing**

Desoto has discussed the need to release "dead capital" locked up in housing and other real estate assets. Because mortgage financing isn't available, either because titles aren't

properly registered or because mortgage markets don't work. In middle-income countries, real estate reforms

may lead to better land registration systems and help create durable mortgage markets. These options may not currently be available in poorer countries or in informal settlements.

**Microfinance for housing**

However, innovative programs have been developed to create loan opportunities for those who do not currently have them. Microfinance is increasingly used for home loans and is affordable for those with moderate incomes. Features of housing microfinance include a maximum tenure of 2 years for improvements or a maximum tenure of 5 years for land purchase. A bond is usually not required, although co-signers may be required. Home loans that may be combined with loans for business development. and microfinance loans specifically targeted at low-income wage workers, micro-entrepreneurs, or the poors.

**Community-led infrastructure financing**

Another innovative program, the Community-Led Infrastructure Finance Facility (CLIFF) has helped and funded more than 2,700 families in India in need of shelter. Two health projects that benefited about 215,000 families. CLIFF financial assistance to organizations in the informal sector directly bypasses programs, but at the same time they support the communities or accessible banks. By using CLIFF funds, organizations in the informal sector can attract other financial sources. As a result, they use CLIFF funds and make them even more productive and profitable. The program is being expanded to Kenya.

**Development of land and real estate systems**

Recent innovations in housing finance may solve another problem related to the "dead". Capital means ignorance of the financial benefits that real estate may provide.

Meeting people who ignore land registration laws is unusual in developing or transition countries, because they simply do not see any benefit in registering the ownership of their properties.

However, without registration, loans cannot generally be secured by real estate, and real estate with equity value cannot be released for other uses. The owner of a beauty salon in Serbia saw no reason to register his property. However, he needed funds to expand his business. When he was told that he could get financing based on the value of his property, but only if it was properly recorded, he understood the importance of recording and complying with real estate laws. As more people take advantage of microfinance and other targeted loan programs, real estate markets expand further and as a result, capital will release for development.

**Development of primary and secondary financial markets**

Capital market development to support housing and collateral investments in urban infrastructure has been a major factor in the West in creating more open, accountable and honest local governments. Capital markets scrutinize municipal financial actions much more closely than other levels of governments or citizens. Local governments that cannot meet the standards of lenders and underwriters in urban credit markets quickly find themselves shut out of these markets. At the same time, active mortgage credits markets promote effective implementation of

construction laws and health and safety standards. Active mortgage markets also provide an

important long-term investment for public and private pension funds. It provides a more secure income for elderlies in their old age. As more and more countries use partial funding for their pension systems, the role of municipal credit and mortgage markets is increasing.

## Entitlement to housing rights

Housing should not be seen in a narrow structure consisting of only a few walls and a roof made of bricks or mortar. Housing has much broader concepts and affects human life and dignity. Accordingly, housing should be seen in a larger context that includes all the basic rights undisturbed to shelter, amenities and infrastructure related to human life, which not only provides a guaranteed quality of life, but also empowers the people living in the house to be happier, healthier and more productive. These requirements basically include the following items: safe tenure; supply of safe water, sewage, sanitation; health and educational facilities; sufficiency living space; availability of materials for construction; Caring for the vulnerable layers of the social pyramid; making the cost of services and facilities affordable and locating housing in places that do not affect the health, hygiene and dignity of residents.

According to "Fact Sheet No. 21, Human Rights to Adequate Housing" presented by the United Nations, one of the obstacles to achieving the right to housing is the lack of a universally recognized definition of the set of rights that includes this norm. This obstacle was perhaps the result of perception rather than actual legal analysis. In recent times, several measures have been taken to improve legal approaches in this field. Most importantly, General Comment No. 4 of the Committee on Economic, Social and Cultural Rights on the right to adequate housing defines this right as including various specific concerns. Taken together, these rights

constitute the basic guarantees legally conferred on all individuals under international law.

1. **Legal security of tenure**
   All individuals must have a degree of security of tenure that guarantees legal protection against forced dismissal, harassment and other threats. All individuals must have a degree of security of tenure that guarantees legal protection against forced dismissal, harassment and other threats. As a result, governments must take immediate action to provide legal security of tenure to families who currently lack such protection. Such measures should be taken in genuine consultation with affected individuals and groups.
2. **Availability of services, materials and infrastructure**
   All beneficiaries must have the right to adequate housing, sustainable access to natural and common resources, clean drinking water, energy for cooking, heating and lighting, sanitation and washing facilities, food storage facilities, waste disposal, site drainage and emergency services.
3. **Affordable housing**
   Personal or household expenses related to housing should be such that the achievement and satisfaction of other basic needs are not threatened or compromised. Housing subsidies should be available for those who cannot afford affordable housing and tenants should be protected from unreasonable rent levels or rent increases. In societies where natural materials are the main sources of building materials for housing, governments should take steps to ensure the availability of such materials.
4. **habitable housing**
   Suitable housing must be livable. In other words, it must provide adequate space for the occupants and protect them from cold, humidity, heat, rain, wind or other health threats, structural hazards and disease vectors. The physical safety of passengers must also be guaranteed.

5. **Available housing**
   Adequate housing must be available to those who deserve it. Disadvantaged groups must have full and sustainable access to suitable housing resources. Therefore, disadvantaged groups such as the elderly, children, physically disabled, terminally ill, HIV-positive people, people with ongoing medical problems, mental patients, victims of natural disasters, people living in vulnerable areas and other vulnerable groups should be guaranteed a degree of priority in the field of housing. Both housing law and policy should fully consider housing specific to the needs of these groups.
6. **Place**
   Adequate housing must be located in a location that provides access to employment options, health care services, schools, child care centers, and other social amenities. Housing should not be built in polluted places or in the vicinity of pollution sources that threaten the health of residents.
7. **Cultural appropriate housing**
   The way housing is built, the building materials used and its underlying policies should properly provide the opportunity to express cultural identity and diversity. The activities that are carried out in the direction of development or renovation in the field of housing must ensure that the cultural aspects of housing are not sacrificed. These broad rights reveal some of the complexities associated with the right to have adequate housing. They also indicate many areas that should be fully considered by governments with legal obligations to satisfy the housing rights of their populations. Any person, family,

group or community living in a situation where these rights are not fully satisfied can reasonably claim that they do not

have the right to adequate housing in accordance with international human rights law.

## Housing and economic development

Construction and use of suitable housing affects economic development through its effect on employment, savings, investment and labor productivity. These facts have been widely confirmed recently. Since 1945, housing experts have expressed three views on the role of housing in economic development. In the early postwar decades, most writers viewed housing as a social cost and a recoil on growth. A minority argued that housing could be an important complement to specific development projects, usually in separate locations. Since the 1970s, housing has increasingly been seen as a factor in growth, not only because house building is a major employer with large multiplier effects but because housing has social consequences with various economic effects.

In the early 1960s, the Venezuela government founded Ciudad Guayana. A regional development agency, to plan a large new settlement near a steel plant in the eastern part of the country. As a Harvard-MIT planner explained at a conference in 1966, the agency predicted that workers' housing would account for 16 percent of total investment in the first 15 years, which is equally divided between public and private projects.

Economist and planner Wingo responded to a request to discuss the merits of the agency's plans noted a problem: "We don't know whether to treat [housing] as an economic burden or not because it improves the ability of the productive sector." To produce; as a social overhead because it might make people more useful members of society, [or] as a consumer good to be distributed by the market itself. Of course, it was all those things and more. Over the past half century or more, the balance of opinions regarding the economic importance of housing has fluctuated. But in general it has become

more desirable. The purpose of this article is to trace these changes. An accompanying article speculates on why they occur.

We focus on the economic aspects of housing because these aspects are often left out, even if they are a good deal. For families, housing involves large expenditures of money or labor force. In local, regional, and national economies, the construction industry typically competes with the transportation sector and most types of manufacturing. Since it is one of the most productive branches of construction, home building alone employs more than most other major industries. With backward linkages with suppliers, with multiplier effects on household spending, and with linkages to the financial system through residential mortgages, the housing sector plays a key role in any economy. Its organization or lack of organization has a noticeable effect on economic growth. However, surprisingly, governments and academics have been slow to recognize the potential of housing as an economic development tool.

The idea of national economic planning became popular after 1945. Initially, most development economists assumed, and few actually argued that the construction industry including housing should at best play a secondary role in development planning. They believed that better housing is a social cost, not a factor of growth. This view remained dominant until the 1960s, but during that period there were always those who qualified it by insisting that in some contexts housing was a prerequisite and a necessary adjunct to development. The balance of opinions began to shift in the late 1960s, and in the early 1970s the World Bank became active in housing. Since then, experts have consistently acknowledged the economic importance of housing. Although their views have still had limited influence on larger debates about the nature and direction of economic growth. This article follows the growing

history but still traces the limited profile of housing among those concerned with promoting development.

**A historical perspective**

Very few who have written about the relationship between housing and economic development have paid much attention to its history. This relationship first attracted the attention of scientists during the 1970s and 1980s. Influenced by the work of Turin (1967), (1970), (1974), (1978), researchers began to discuss whether, in relative terms, investment in building and construction increases with the level of development?

**Housing as a social cost, 1960-1945**

No wonder professionals sometimes wish they could make a claim about the importance of housing. The question is, was anyone else listening? In the early postwar years, there were certainly housing experts who tried to make a strong case. These included the planner Jacob Crane, who until 1953 was head of the International Housing Bureau at the Housing Agency and Home Finance Agency. Architect George Atkinson, who became housing adviser to the British Colonial Office in 1948.

**Housing as a supplement to development, 1950-1960**

During the 1950s and early 1960s, those development economists who considered the economic importance of housing found it impossible to completely dismiss this issue. Mark Nerfin and the UK Treasury's legal advisors both reluctantly acknowledged that there are circumstances in which housing investment can be justified even on narrow economic grounds. Several contemporaries explained this view.

In the 1940s, it was the most widely accepted view of economics.

**Housing as an investment, 1960s to present**

Housing is obviously an investment: costs are incurred over a period of months to produce a stream of services that will be enjoyed for decades Malpezzi (1990-1999). The question is what economic impact those investments and related service flows will have. During the 1940s and 1950s, most of those associated with the publication of housing programs were convinced that housing contributed to economic development

# Chapter Eight

## Conditional correlation between currency, gold, housing, stock and oil markets in the economy

Gold, stock, housing and currency markets in Iran are known as investment alternatives and on the other hand, the oil market can cause fluctuations in the market of various assets with direct and indirect effectiveness. Empirical evidence has shown that markets are not separate from each other and their movements do not take place in a separate space. Therefore, it seems necessary to know the relationships between assets in order to make appropriate decisions by investors. Exchange rate is an important factor for domestic and foreign investors. Gold is a commodity that can maintain purchasing power against inflation, therefore, it is a suitable means for investment and maintaining purchasing power. Housing is considered one of the problems of the society from the economic and social point of view, and its price fluctuation can cause problems in the ability of a part of the society to own a house. And the stock market is a place to collect the liquidity of the society in order to direct the funds towards production and economically productive activities. Therefore, understanding the relationship between these markets is of particular importance.

In the form of a macroeconomic analysis, it can be said that there are two ways of looking at oil and gold. The first is the consumer view and the second is the capital (financial) view. The decrease in the price of oil from the point of view of consumption in the perspective of macroeconomics causes a decrease in the price of production factors (energy) and stimulates the supply side of the economy. This issue will reduce prices and improve the country's economy. In the medium and long term, this causes a tendency towards productive assets such as stocks, real estate, financial assets and an increase in cash financial assets and currency, which will increase the interest rate in the country in the medium term. On the other hand, the capital view of these two goods shows that in the condition of economic recovery, the subside of economic crises or the decrease in the expected price of these two financial assets, the desire to investment and maintaining these two assets due to the improvement of other productive assets or the lack of return, these two financial assets decrease and the price of both decreases together. Gold and oil have common influencing factors, which causes the price of these two vital commodities to move in the same direction in most cases. But there is no direct relationship between the price of oil and the price of gold. An increase in oil price will increase costs and, as a result, increase inflation. In such a situation, investors tend to convert their capital into something that is more stable and can compensate inflation to some extent. The oil market is one of the most important global markets, which usually plays a dual role in relation to other markets, including the currency market. So that at some times it has been affected by the developments of the dollar and at other times it has been effective on the developments. Political issues of supply and demand balance, introduction of alternative energies in financial markets, etc. are among the many factors affecting the price of oil. One of the issues that is affected by the price of oil is the exchange rate. The exchange rate as one of the

economic indicators is always affected by oil fluctuations directly. In Iran, the most fluctuations in the

exchange rate are related to oil impulses. This issue shows the vulnerability of Iran's economy to oil price changes, a damage that a large part of it comes back to the passive role of currency policies. The main cause of these fluctuations is the different currency policies adopted in Iran. The decrease in oil prices in the past will increase the value of the domestic currency in the short term due to wrong currency policies. This issue indicates the resistance of policymakers in increasing the real exchange rate when foreign exchange income decreases. Gold price changes also have a great impact on the financial markets, especially the dollar. Experts believe that gold is a commodity that the purpose of buying it in the field of investment from one point of view
is to receive capital gains from the increase in its price as a commodity and it covers the market risk for investment, and on the other hand, it covers the exchange rate changes, and in this way, by investing in gold, the investor covers himself against the fluctuations in the value of the country's currency. Considering the role of gold as a tool for diversification and risk management, it has outperformed many assets, including oil, based on risk-adjusted returns in a year of high uncertainty and volatility. In Iran, due to the temporary increase in volatility that affected all financial markets, gold performed better than a large number of assets and strengthened its base in the composition of the portfolio of investments. Gold is highly liquid when investors need it, and it is considered a risk management tool. Also, this product has been a means of covering exchange rate fluctuations, especially the US dollar. Based on this, participants in the gold market are expected to maintain their demand for gold in its various sectors, including central bank investment activities, jewelry and technical uses.
Regarding the relationship between the price of gold and currency and the housing price index, two scenarios can be mentioned:

In the first scenario, which is called another recession, the attractiveness of the housing market will decrease due to the migration of capital to the more profitable gold and dollar markets

and as a result, the growth process of housing transactions will gradually change direction. If this scenario occurs, the drop in capital purchases in the housing market can immediately affect housing prices and reduce rates. Another group of economists, by rejecting the first scenario, predict that the transaction process will not be affected positively or negatively by fluctuations in exchange rates and gold. In this scenario, the reduction of housing prices will be rejected, and in the best case, the stability of the value of real estate transactions will happen. Some experts and economists believe that because there are no speculative incentives in the housing market and there is no excess liquidity in this market, so stimulation of housing demand cannot be planned and cannot happen. In the housing sector, discussions on the stock market have also disappeared. Therefore, if gold and dollar buyers increase, residential property buyers will not necessarily decrease.

One of the main reasons for the increase in housing prices should be found in the increase in oil revenues. Most economists agree that due to the effect of oil revenues on the demand for various goods, including housing, one of the negative effects of the increase in these revenues is the growth of housing prices. Although there are many reasons for this increase, but besides them, we can mention the reason due to the increase in oil revenues. In stating the relationship between the increase in oil revenues and the increase in housing prices, economists believe that the injection of oil revenues into the national economy will increase total demand. The market reaction to this increase in total demand is different according to the type of product. In general, it can be divided into two categories of tradable goods and non-tradable goods. In other words, it is assumed that with the increase in oil revenues, the demand in the society will increase. The increase in demand for tradable goods can be compensated by imports and prevented their price from increasing, but it is not possible to trade some goods that a clear example of them

is housing. As a result of the increase in demand for housing, of course, not all of it is real demand, and part of it can

be speculative demand, due to the fact that there is no possibility of international exchange of this product, in practice, we will see an increase in its price in the market. Finally, regarding the relationship between oil and the housing market, it can be said that the lack of tradable goods is compensated by the increase in imports. Therefore, the price of tradable goods remains constant or will not change significantly, but the response of non-tradable goods, especially housing, to the increase in demand is the total price increase because the lack of these types of goods cannot be compensated by importing.

In relation to the stock market, motivational structures and changes in risk aversion can be effective in transferring shocks to this market. A crisis in an emerging market may lead to the stimulation of investors to sell their shares in other emerging markets. Similarly, an increase in risk aversion can cause investors to sell assets that have more weight in the portfolio so that they can more closely monitor their desired metrics.

Wang et al. (2010) have investigated the relationship between stock price in security exchange with oil and gold prices and different exchange rates in Germany, Japan, Taiwan, China and the United States. They confirm the existence of a long-term relationship between these variables. However, a similar long- term relationship cannot be shown for the US stock market.

Akar (2011), in his study, investigated the relationship between the stock exchange, gold and Turkish currency by using Dynamic Conditional Correlation- the Generalized Auto Regressive Conditional Heteroscedasticity method (DCC-GARCH). The results show that there is a conditional correlation between investments at different times and the crisis of 2001 is an important turning point in the dynamic communication between different investments.

Ciner et al. (2013), in an article entitled "Obstacle and safe shelter of examining stock bond, gold, oil and exchange rates", examine the

conditional correlation in the case that the variables act as an obstacle against each other and also examine the correlation

between assets against extreme price movements using quantile regression in the daily timeframe, in the period 1990-2010 in the United States of America and the United Kingdom. The results show that the bond market is a barrier against the stock market and similarly the gold market can be a barrier against exchange rate fluctuations and gold acts as a safe haven.

Akgol et al. (2015) investigated the relationship between gold price and Standard and Poor's Index )S&P) 500 stock price index, using Bayesian VAR Markov Switching Model and the effect of financial and economic variables on stock price index in the period of 1986-2013. The results show that all the variables in the long term affect the stock price index of S&P 500 and the price of gold has the highest impact on stock prices in the long and short term. At the same time, oil and gold price fluctuations in the short term do not affect the stock market of S&P 500.

Gogmenoglu and Fazlolahi (2015) have investigated the dynamic correlation between pairs of financial assets (gold, oil, stocks) using daily data from 1987-2012 using the Wavelet Method. The results show that in the horizon of investment assets, heterogeneity in correlation is one of the dominant features during the period of economic recession and financial turmoil, that this heterogeneity is obvious in the correlation between gold and stocks, in such a way that after the 2008 crisis, the correlation between assets has increased and become more homogeneous.

In a study, Oztek and Ocal (2017) investigated the financial crisis and the nature of the correlation between financial markets and commodity markets, here agricultural products and precious metals. The results showed an increase in the correlation between the financial market and the commodity market, which the authors attributed it to the recent financial crisis. Also, the results of the investigation of the conditional correlation between the currency, gold, housing, stock and oil markets in Iran's economy have shown

that market fluctuations play an important role in the dynamic nature of the increasing trend. In addition, based on the results of

this study, it seems that commodity market fluctuations during the crisis were the main source of high correlation between markets.

## Correlation of housing economy with fluctuations in property and currency prices

Real estate and currency are two distinct markets that are closely related, while they may seem unrelated at first glance but there are several ways in which they are related. In this article we will examine the relationship between real estate transactions and currency exchanges and how changes in one market can affect the other.

**What is real estate?**

Real estate refers to buying, selling and owning land and buildings. It is a diverse market that includes residential properties, commercial properties and industrial properties. Real estate can be an attractive investment option because of its potential for appreciation over time and its ability to generate passive income through rental properties.

**What is currency?**

Currency refers to a medium of exchange used to facilitate trade and commerce. It is a type of money that is used to buy and sell goods and services. Currency is usually issued by a government and is backed by the strength of that particular country's economy. The value of a currency is determined by several factors, including political stability of the country, economic growth, and the demand for goods and services of that country.

**How is the relationship between real estate and currency?**

There are several ways in which real estate and currency are related to each other. One of the primary ways of their communication is through the exchange rate. Exchange rate refers to the value of one currency in terms of another currency. For example, if the exchange rate of the US dollar is

5.1, it means that one US dollar is equal to 5.1 units of another currency, such as the Euro.

Exchange rates can have a significant impact on real estate markets, as they affect the cost of buying and selling property in different countries. For example, if the US dollar exchange rate is favorable, it may make it more affordable for foreign buyers to buy property in the United States. On the other hand, if the US dollar exchange rate is unfavorable, it may make it more expensive for foreign buyers to buy property in the United States.

In addition to exchange rates, there are other factors that can affect the relationship between real estate and currency. These includes:

**Interest rate:** Interest rate refers to the cost of borrowing money. When interest rates are low, it may become more affordable for individuals and companies to borrow and buy property. This can lead to an increase in demand for real estate and consequently to an increase in prices. On the other hand, when interest rates are high, it may become more expensive for individuals and businesses to borrow and buy property, lead to a decrease in demand and a decrease in prices.

**Economic growth:** Economic growth refers to the increase in the production of goods and services in an economy. When an economy is growing, it may lead to increase in demand for real estate as individuals and businesses have more disposable income to invest in real estate.

**Political stability:** Political stability refers to the level of stability and predictability in a country's political system. When a country has a stable political system, it may be more attractive to foreign investors because it creates a sense of security and stability. This can lead to an increase in demand for real estate

in that country and thus to an increase in prices. However, when a country has an unstable political system, it

may become less attractive to foreign investors, leading to lower demand for real estate and lower prices.

### Examples of property and currency correlation

There are many examples of how real estate and currency are correlated. An example of the correlation between real estate and currency can be seen in the UK. After the Brexit voting in 2016, the value of the British Pound sterling fell significantly against other major currencies. This made it more affordable for foreign buyers to buy property in the UK and led to an increase in demand for real estate. As a result, UK property prices rose significantly in the years following the Brexit voting.

Another example of the correlation between real estate and currency can be seen in the United States. After the global financial crisis in 2008, the value of the US dollar depreciated significantly against other major currencies. This made it more affordable for foreign buyers to buy property in the United States and led to an increase in demand for real estate. As a result, property prices in the United States rose significantly in the years following the financial crisis.

As a result, real estate and currency are closely correlated markets. Changes in one market can have a significant impact on another. Factors such as exchange rates, interest rates, economic growth and political stability can all affect the relationship between real estate and currency. Understanding these correlations can be valuable to investors and homeowners looking to make informed decisions about their property investment and buying property.

## Understanding the impact of a strong currency on the housing market: positive and negative effects

The housing market is a critical indicator of the overall health of an economy, and the impact of a strong currency makes it an important

factor for investors. A strong currency can have positive and negative effects depending on the factors affecting the housing

market. On the one hand, a strong currency can make it easier for buyers to buy a home because they can buy at a lower exchange rate. On the other hand, a strong currency can make it more difficult for sellers to get a good efficiency on their investment, because the value of the currency may be higher than the selling price of the house. Additionally, a strong currency can also make property more expensive for foreign buyers and potentially reducing demand for housing. It is important to keep in mind that these effects can vary depending on specific circumstances, and investors should be aware of the potential implications of a strong currency on the housing market.

It should be remembered that a strong dollar increases the prices of various goods and services in different countries, while a weak dollar decreases them. Foreign buyers are less willing to buy property in the United States due to the increase in the value of the dollar. Areas of the country that are more vulnerable to this issue may be areas that have less affordable real estate. Chinese, Russian and European buyers are increasingly investing in US real estate. Foreigners bought 19% of the total US real estate market in 2014 and this figure was 23% in 2011. Many foreign investors see the increase in the value of the dollar as a sign of the country's economic stability.

**What is the effect of a strong currency?**

If a country's currency depreciates against the dollar, the price of imports from the United States will rise, putting upward pressure on prices. In most cases, a 10% increase in inflation abroad is passed on to consumers by a 1% increase in inflation in the United States.

A country's money is more valuable when it is strong, because the country can accumulate more assets and resources for its people. The increase in the exchange rate generally indicates the growing

competitiveness and productivity of the country. In addition, a strong currency may weaken the current account.

Recently there has been a lot of concerns about the impact of the US dollar on the global economy as it could have a negative impact. An increase in the exchange rate, which is an increase in the value of one currency compared to another currency, reduces inflation by making imports more affordable and reducing the price of goods. since imported products are more attractive, domestic demand for their products will decrease. The reality is that a strong dollar can cause significant problems in practice. Global credit is increasingly under pressure by borrowing dollars from countries and businesses around the world. As the value of the dollar increases, Repayment of debts in local currency becomes more expensive. If this happens, it will have a negative impact on the global economy, in addition to making other countries' economies dependent on US exports. The increase in money value has positive and negative effects on the stability of the world economy. It can both reduce inflation and encourage imports. There is a risk that it will reduce global credit and make it more difficult for companies to repay their debts. To prepare for these potential impacts, it is important that citizens are aware of them.

**Advantages and disadvantages of a strong currency**

Strengthening a country's currency benefits those who export goods and services, allowing them to receive more currency. On the other hand, the disadvantage of a strong currency is that imported goods will have the same amount of domestic currency as they are bought in the exporting country, making it difficult for domestic trade to compete with imports. A strong currency can hurt domestic businesses in the long run. Additionally, a strong currency may make it more expensive for people to travel abroad, making it more difficult for them to do so. The result is that a strong domestic currency has benefits, but it can also have negative consequences, including making it harder for domestic businesses to compete with

foreign producers and making it more difficult for people to travel to foreign countries.

## Who benefits from a strong currency?

Decreasing the price of imported goods is one of the ways that a strong dollar helps to keep domestic inflation low. The value of each dollar increases over time, and as a result, the number of purchased goods and services increases. Since the United States is a net exporter, a 14 percent increase in the dollar could have a measurable impact on inflation.

There has been a currency war for a long time. A weaker currency is desirable for various reasons, including increased exports and competitive advantage. The value of a currency can also increase in some ways. What do you think about what we said? Is your currency weak or strong? Why? Which is better: rise or fall?

Despite the recent weakness, the US dollar is still one of the strongest currencies in the world and ranks third after the Kuwaiti Dinar, the Bahraini Dinar and the Omani Rial. As a result, foreign buyers can purchase US goods and services at relatively low cost, which is a huge boon for US exporters. Because the U.S. dollar is stronger than most currencies, U.S. exports are more attractive to foreign buyers, resulting in higher sales and profits for U.S. manufacturers. These benefits are especially valuable for small and medium-sized businesses that may not have the necessary resources to compete on a global scale. Additionally, due to the devaluation of the dollar, foreign buyers have found US assets to be cheaper than those in other countries. As a result, a weak US dollar is useful for US businesses because it allows them to export their goods and services more competitively and attract foreign investors.

## Advantages and disadvantages of a dollar

Over the past few years, the value of the US dollar has increased, causing global price changes. In other words, when you exchange US dollars with other currencies, you get more currency. This

favors US inflation. Because cheaper imports lead to lower inflation, it has a downside for American companies because their

products are now more expensive internationally. When investing in international markets, it is important to consider the effects of strengthening US dollar on businesses and individuals. In addition, it is important to understand the long-term effects of strengthening dollar, because it may lead to a decrease in purchasing power over time. As a general rule, the US dollar is stronger. It has advantages and disadvantages and it is important to consider the implications carefully before investing on it.

## Is a strong dollar good for the market?

Is the dollar strong? Even a strong dollar may hurt U.S. stocks, but it makes international stocks as a bargain for U.S. investors who are seeking to diversify their investments. International stocks have historically outperformed than US stocks and they have also been unwilling to increase or decrease the lock-in the US markets in the past.

The U.S. trade-weighted total dollar index is up nearly 20 percent since mid-2014. The Japanese Yen, Mexican Peso, Canadian Dollar and Euro saw some of the biggest increases. An increase in the price of the dollar, in addition to a decrease in the price of imports, prevents inflation. This should lead to a more balanced and healthy global economy over time. It is likely that the strengthening of the dollar will have a positive effect on the economy and markets. Dollar bull markets have outperformed dollar bear markets twice since 1980. Since the dollar rose more than 10% in 2010, The S&P
500 index increased every year.

The value of the US dollar is important to the global economy. As a result, a strong dollar makes it easier for Americans to buy goods and services from abroad, decreases domestic inflation, and provides consumers with a wider range of goods. Also, the inverse relationship between the price of oil and the dollar is also significant. The strength of the dollar makes it easier to buy oil, and

as a result, oil prices fall worldwide. Consumers as well as businesses benefit less as a result of energy costs. In addition, a

strong dollar boosts the global economy and consumer purchasing power.

## Advantages and disadvantages of a strong dollar

The US dollar has given many countries both advantages and disadvantages around the world. The value of the dollar can be beneficial for Americans traveling abroad because they buy more foreign currency. However, for foreign tourists, the situation is unfavorable. A strong dollar has wider economic effects beyond travel. A strong dollar may have negative consequences for other countries, especially emerging and developing economies, according to a new study published in the Brookings Journal on Economic Activity. As a result, inflationary pressures increase in other countries as the price of imported goods from the United States increases. When the dollar increases by 10% in foreign currency. Despite these problems, a weak dollar can be helpful for investors betting on international markets. Because it increases the value of dividends paid in foreign currencies when reconvert into dollars. However, it is important to consider whether a strong dollar will have a positive or negative impact on the global economy.

## How does a weak dollar affect real estate?

In large markets such as New York, the price of the dollar and the currency exchange rate against other currencies is effective on the real estate market. A strong dollar makes it more expensive to buy goods and services in other countries, while a weaker dollar makes it cheaper.

Investing in multi-family real estate is a well-known and well-established asset class around the world. When prices fall due to unrelated factors, this indicates a buying opportunity. Pension funds of all sizes hold a significant amount of real estate assets, which

ranges from 5% to 15% of total assets under their management. Default rates for multi-families (small balance loans) SBLs are

increasing. If the rental collections are significantly reduced and at the same time the leverage is excessive, there will be problems for owners of small multi-families' properties. Unlike an inverse currency position, a strong dollar reduces the currency's purchasing power against the dollar. Multi-family properties provide stability and support of long-term investment in contrast to currency fluctuations. Foreign investors are entering the multifamily market (even in the cycle) as a result of the weak dollar. According to the National Association of Realtors, a multifamily property is a substantial investment. Multi-family, when purchased correctly, is a solid asset with a steady income stream that is hard to miss. Buying professional property management from the start is critical to the success of any business.

## The weak Dollar: An opportunity for investors and buyers

When the value of the dollar decreases, it affects us all. As a result, the purchasing power of the consumer decreases with the increase in the cost price of imported goods. Weakness of the dollar may also benefit investors as earned dividends in foreign currencies are converted back into dollars and its value increases. In addition, a weak dollar benefits exporters because their products are priced significantly lower abroad. The effects of a weak dollar on real estate may be somewhat different than the effects of a strong dollar. Real estate prices may not drop that much, but buyers may be able to afford it. In addition, investors can take advantage of this situation by investing in real estate in other countries and making money through rental services such as Airbnb and Sonder. Weakness of the dollar can be useful for those who are in a good position to use it.

## How does a strong dollar affect the stock market?

A strong dollar can have a huge impact on the stock market as it affects the value of stocks and other investments. When the dollar is strong, it means that it has more purchasing power in global

markets. This means that foreign investors will have more money to invest in US stocks, which will increase demand for them and increase prices. On the other hand, when the dollar is weak, foreign investors may not be interested in U.S. stocks, which can lead to a price drop. This can hurt the stock market as fewer investors may be willing to buy stocks and the overall index may fall. It is important for investors to keep an eye on the strength of the dollar and how it affects the stock market as it can have a huge impact on their investments.

The value of the dollar in the United States has reached its highest level. When the dollar strengthens, companies with a large international presence will suffer. According to one analyst, the %27s S&P500 earnings could fall by $100 billion as a result of the increase. Last week, IBM warned that a rise in the value of the dollar can decrease its revenue by up to $5.3 billion current year. According to the CFO, the boost has accelerated at the fastest pace for at least a decade. Because the vast majority of their sales come from overseas, technology companies are particularly vulnerable.

## The impact of the US dollar on the stock market

The strength or weakness of the US dollar can have a significant impact on the stock market. As the dollar appreciates, businesses that rely on imports benefit from increase purchasing power. Stocks rise as the dollar rises. The dollar cycle negatively affects corporate earnings, which is why stocks fall when the dollar is weak. As a result of a weak dollar, commodities such as oil, wheat, and metals denominated in dollars become more expensive, affecting international trade. Investing in international markets can also be useful if the dollar decreases because foreign currency dividends are converted into dollars. The strength or weakness of the US dollar has a direct impact on the stock market and should be considered when investing.

## The impact of gold price on the housing market

Are you curious about how the price of gold can shape the housing market? Does this precious metal have the power to influence real estate trends and mortgage rates? In this article, we examine the complex relationship between gold prices and the housing market and we reveal the basic dynamics that link these two seemingly unrelated realms.

In short, the price of gold has a wide impact on the housing market. From influencing mortgage rates and consumer sentiment to influencing investor behavior and construction costs, gold's value extends beyond the bullion market. By examining historical examples, insights from experts, and data-driven analysis, our goal is to clarify the fascinating interplay between gold prices and the housing sector.

So fasten your seat belts and join us on this enlightening journey to uncover the hidden connections between the glittering world of gold and the fundamentals of the housing market. Get ready to discover how fluctuations in the price of this precious metal can ripple through the real estate landscape and shape the dreams and aspirations of homeowners and investors.

### Getting to know the price of gold

When it comes to understanding the complex dynamics of gold prices, several factors come into play that shape the fluctuation and flow of the value of this precious metal. As investors and enthusiasts seek to navigate the intricacies of the gold market, understanding the key influences that drive its price volatility becomes critical.

At the forefront of factors affecting gold prices is the delicate balance between supply and demand dynamism. Gold, a limited resource, is extracted from mines around the world, with production

levels affecting its availability. Changes in mine production, whether due to technological advances, geopolitical factors, or

natural constraints, can affect the supply of gold and thus its price path. On the other side of the equation, demand for gold can be influenced by a countless of factors, from industrial use in sectors such as electronics and healthcare to the old charm of gold as a symbol of wealth and status.

Beyond supply and demand, global economic conditions have a significant impact on gold prices. During periods of economic uncertainty, when investors seek safe assets, demand for gold increases, driving up its price. Conversely, during times of economic stability and optimism, demand for gold may decrease, putting downward pressure on its price. Factors such as GDP growth rate, inflation level, interest rate and general market sentiment all interact with gold price and they create a delicate dance between economic indicators and the attractiveness of this shining metal.

Inflation and currency fluctuations, two completely intertwined factors, also leave their effect on the valuation of gold. Since inflation reduces the purchasing power of Fiat currencies, Investors often turn to gold as a store of value. When the rate of inflation increases, gold can act as a coverage against the devaluation of paper money and thus affect demand and its subsequent price. In addition, currency fluctuations, caused by various economic and geopolitical factors, affect the relative value of currencies against each other. With currency fluctuations, the price of gold in different currencies can fluctuate and provide opportunities and risks for investors.

Geopolitical events and the uncertainty associated with them act as the final influencing force in shaping gold price. The global geopolitical landscape is marred by numerous factors, from political tensions and conflicts to trade disputes and political decisions. Such events have the potential to create waves of uncertainty which encourages investors to take refuge in gold. In times of geopolitical

disturbances, demand for gold as a safe-haven asset is increasing, often driving up its price.

Consequently, understanding the complex world of gold prices requires a comprehensive understanding of the polyhedral factors that influence its valuation. From the delicate balance of supply and demand dynamics to the ripple effects of global economic conditions, inflation, currency fluctuations and geopolitical events, each of its components plays a central role in the formation of the price of this precious metal. By coordination into these influences, investors and market participants can move the gold market with greater insight and enables them to make informed decisions based on a deep understanding of the affecting factors on gold price.

## Housing market dynamics

The housing market is the cornerstone of economic activities and plays a vital role in people's lives and the overall health of the economy. Understanding the dynamics that drive this market is important for both homeowners and investors. Let's delve into the intricacies of the housing market, exploring its definition, importance and key effective factors on its ever-changing landscape.

To begin, the housing market includes the buying, selling, and renting of residential properties, including houses, apartments, and connexes. It serves as an essential component of the economy as it not only provides shelter but also generates significant economic activity through construction, real estate transactions and related industries. The housing market acts as a barometer of economic health, reflecting broader trends and influencing consumer sentiment and costs.

Various factors contribute to the dynamics of the housing market, some of the key influencers are:

**Interest rate:** Interest rate has a significant impact on the housing market. When interest rates are low, loan costs are reduced and home buying becomes more affordable for people.

This tends to stimulate demand and increase housing prices. Conversely, when interest rates rise, borrowing becomes more expensive and potentially reducing demand and putting downward pressure on prices.

**Population and population growth:** demographic trends and population growth have a profound effect on the housing market. Changes in population size, age composition, and household formation rates can affect housing demand. For example, an increase in the number of young people entering the housing market may increase demand for newly constructed homes, while a growing population may create demand for housing options suitable for elderlies.

**Employment and income levels:** The strength of the labor market and income levels directly affect the housing market. Stable employment and increased income provide people with the financial means to buy a house and increase demand. Conversely, job losses or wage recession can lead to lower prices and lower demand for housing.

**Housing supply and demand:** The interplay between housing supply and demand is an important driver of market dynamics. An insufficient supply of housing relative to demand can lead to the formation of a seller's market, where prices rise due to limited availability. On the contrary, the oversupply of houses can create buyer's market and lead to a decrease in prices. Factors such as construction activity, land availability and government policies shape housing supply, while population growth, economic conditions and reasonable prices affect the demand.

By understanding these factors and their impact on the housing market, individuals can make informed decisions about home ownership, investment opportunities, and rental markets. In addition, policymakers and industry professionals can develop

strategies to address housing affordability, promote sustainable growth, and mitigate potential risks.

## Gold as an investment alternative

In the area of investment opportunities, gold has long been considered as a valuable asset with unique characteristics that make it an attractive choice for investors. People choose to invest in gold for a variety of reasons, each stemming from historical significance and perceived benefits in the modern financial landscape. Let's explore why people find gold a satisfactory investment alternative and how it can contribute to a diverse basket.

**Covering against inflation and economic uncertainty:** One of the primary motivations for investing in gold is its ability to protect against inflation and economic uncertainty. Unlike Fiat currencies, which may depreciate due to factors such as excessive money printing or economic instability, gold has maintained its value over the centuries. In times of inflation or economic turmoil, gold has often shown its flexibility and acted as a store of wealth. Investors seek to protect their purchasing power by allocating a portion of their portfolio to gold, which can act as a reliable protector against the erosion of economic conditions.

**Diversification of the investment portfolio:** Diversification is a fundamental principle of cautiously investing, whose purpose is to reduce risk by allocating investments in different asset classes. Gold offers an opportunity to diversify a portfolio beyond traditional stocks, bonds and real estate. As an uncorrelated asset, gold often exhibits low or negative correlations with other investment categories. This means that when other assets experience recession or market fluctuations, gold may potentially hold its value or even increase its value and create a balancing effect on the overall performance of the portfolio.

**Store of value and preservation of wealth:** Gold has been respected throughout history as a store of value and a means of preserving wealth. Its inherent physical properties, rarity, and

enduring appeal contribute to its perception as a reliable long-term investment. Unlike paper assets that can be exposed to geopolitical events, economic crises or technological disruptions, gold maintains its intrinsic value and it acts as a tangible asset that transcends borders and time. Investors often turn to gold to protect their wealth and protect against the uncertainties and fluctuations of modern financial markets.

By considering these factors and including gold in their investment strategies, individuals can potentially increase their financial flexibility and achieve greater diversification. However, it is important to note that investing in gold, like any investment, has its own risks and considerations. Factors such as market fluctuations, supply and demand dynamics, and geopolitical factors can affect gold prices. Therefore, conducting thorough research, seeking professional advice, and evaluating personal investment goals are important steps for individuals considering gold as part of their investment portfolio.

## Gold price and housing market relations

The relationship between the price of gold and the housing market is complex and various factors play a role in it. Understanding these connections is critical for investors, home buyers, and industry professionals. Let's examine the key aspects related to gold price and the housing market:

**Impact on mortgage rates:**

Gold prices and interest rates often have an inverse relationship.

Fluctuations in gold prices can affect interest rates, which directly affect mortgage rates.

Changes in mortgage rates can affect housing affordability and demand.

**Consumer sentiment and expenses:**

Changes in gold prices can indirectly affect consumer confidence.

Consumer sentiments play an important role in the Housing market activity.

Positive consumer sentiments stimulate demand, while negative sentiments can dampen market activity.

**Investor behavior and investment in real estate:**

The price of gold can influence investor's behavior during periods of market volatility or uncertainty.

Changes in willingness of investors for gold may affect real estate investing.

Changes in the price of gold can shift investors' attention towards or away from real estate.

**Construction and housing costs:**

The price of gold affects construction materials and costs.

Fluctuations in gold prices affect input costs for construction.

Changes in construction costs can affect housing supply and prices.

Understanding the relationship between gold prices and the housing market helps investors make informed decisions. It highlights the impact on mortgage rates, consumer sentiment, investor's behavior and construction costs, ultimately shaping housing market dynamics.

## Case studies and historical analysis

Examining historical events provides valuable insights into the relationship between gold prices and the housing market. Let's examine notable case studies and their impact on these two areas:

**2008 Financial Crisis:** The 2008 financial crisis, which began with the collapse of the low-cost mortgage market in the United States, had far-reaching consequences. Here's its effect on gold price and the housing market:

The price of gold experienced a significant increase during the crisis because investors were looking for a safe haven in the midst of market turmoil.

On the other hand, the housing market experienced a severe recession with a sharp drop in housing prices and an increase in housing installments. This crisis emphasized the continuity of the financial system and showed the importance of monitoring the dynamics of the housing market.

**The Dot-com bubble:** The dot-com bubble of the late 1990s and early 2000s was characterized by inflated valuations of Internet-based companies. Its impact on the price of gold and the housing market was as follows:

During the dot-com bubble, the price of gold remained relatively stable as investors focused more on technology stocks and risky investments. The housing market experienced an increase in demand, that was driven by optimistic sentiments surrounding the booming tech industry. However, when the bubble burst, the housing market experienced a temporary slump as prices fell and investor's confidence declined.

**Geopolitical tensions and wars:** Geopolitical tensions and armed conflicts have historically affected both gold price and the housing market. Consider the following examples:

In times of geopolitical uncertainty, such as war or conflict, gold prices tend to rise. Investors see gold as a safe-haven asset that protects their wealth during periods of instability. On the other hand, the housing market can be affected by geopolitical tensions. Uncertainty and fear can lead to a decrease in consumer confidence and affect home sales and prices. However, the housing market's response to geopolitical events can vary depending on factors such as local market conditions and the duration of the conflict.

These case studies illustrate the complex relationship between historical events, gold price, and the housing market. They highlight the role of investor's sentiments, market dynamics and external factors in shaping these areas. Analyzing historical

data can provide valuable insights for investors, policymakers, and industry professionals who seek to understand and navigate

the complex interaction between gold prices and the housing market.

Note: The above content is intended to demonstrate professional SEO copywriting skills. The accuracy of the historical events listed has been simplified for illustrative purposes and may not reflect the full complexity of their effects on gold prices and the housing market.

## Opinions and insights of experts

To gain a comprehensive understanding of the relationship between gold prices and the housing market, it is essential to consider expert opinions and shared insights from economists, analysts, and real estate professionals. Here, we gather insights from these industry experts and highlight consensus and divergent views:

**Economists' Views:** Economists provide valuable insights into the interplay between gold price and the housing market:

Famous economist, John Smith suggests that the price of gold and the housing market are often inversely related. According to him, when the price of gold rises, investors tend to infest to the precious metal and divert their attention from investing in real estate.

In contrast, Sarah Johnson, an expert economist in real estate, argues that the relationship between gold prices and the housing market is more complex. She emphasizes that although there may be short-term effects but long-term trends in the housing market are influenced by various factors such as interest rates, job growth, and consumer sentiment.

**Analyst Observations:** Industry analysts provide valuable observations based on market trends and historical data:

Mark Thompson, a respected market analyst, notes that gold

prices tend to rise during periods of economic uncertainty or market recession. This increase in gold prices can be a sign of possible slowdown in the housing market as investors look for

safer investment options. On the other hand, housing market analyst, Rachel Adams emphasizes that although the price of gold may have a psychological effect on investors sentiments, basic factors such as supply and demand dynamism, reasonable prices and demographic trends play a more important role in the formation of housing.

**Real Estate Professional Insights:** Real estate professionals discuss about practical experience and knowledge on earth:

Tom Wilson, an experienced realtor, suggests that gold price changes have a direct impact on the housing market. Instead, he emphasizes on the importance of local market conditions, such as job growth, population trend, and infrastructure development in housing market activity.

However, luxury real estate expert, Mary Thompson believes that fluctuations in the price of gold can affect the expensive housing sector. He argues that wealthy buyers often view gold as a symbol of wealth and may base their real estate investment decisions on their perception of economic stability.

While there is no consensus among experts about the relationship between the price of gold and the housing market, their diverse perspectives provide valuable insight into this complex dynamism. When evaluating the potential impact of gold prices on real estate investing, it is important to consider a range of factors including economic indicators, market trends and local conditions.

Note: The above content is intended to demonstrate professional SEO copywriting skills. Statements attributed to economists, analysts and real estate professionals are fictitious and do not reflect the actual opinions of any particular individual.

The relationship between the gold price and the housing market, in other words, is complex and dynamic. Throughout this article, we

have covered the various ways in which falling gold prices can affect the real estate sector.

There is a direct relationship between gold prices and mortgage interest rates. With gold prices rising, bond yields falling and mortgage interest rates falling, investors are looking for safer investments. When the price of gold decreases, the rate of increase in mortgage rates decreases.

Additionally, it has been discovered that the price of gold can affect consumer sentiments and expenses, resulting in lower home values. When gold prices rise, consumers may feel more confident about their financial future, leading to higher housing costs and other investment costs.

In addition, we looked at how the price of gold affects investors' behavior and real estate investing. The rise and fall of gold prices can affect investors' willingness to buy real estate in times of economic uncertainty because gold is often viewed as a safe haven.

Finally, we discussed the relationship between gold prices and construction costs. Gold is used in various industries, including construction, and its price fluctuations can affect the prime cost of materials. Rising gold prices can increase construction costs, which can affect housing supply and prices.

One of the important factors in the growth of the gold price is the housing market, and other factors such as the economy, interest rates, and government policies play a role in the growth of the gold price. To gain a complete understanding of the housing market, you must consider various factors and interactions.

Gold prices are likely to have a significant impact on the housing market, affecting mortgage rates, consumer sentiments, investors' behavior and construction costs over the long term. By closely monitoring and analyzing gold price trends and dynamism, industry professionals and investors can gain valuable insight into the ever-changing real estate market.

## What effect will the low price of oil have on the real estate market?

Most of the cities and industries around the world are still under quarantine due to the corona virus epidemic. With people sheltering at home, demand for oil has fallen sharply.

For the first time in history, the price of oil futures contracts fell into the negative. The price of US crude oil fell from 15 dollars per barrel to 40 dollars. What does this mean for the real estate market, especially in energy-dependent areas? Before buying or selling property, you should take a closer look at the impact of negative oil prices.

**The price of oil provides a picture of the economy:**

What is the relationship between oil prices and the housing market?

In oil-rich regions, the price of oil indicates the economic capability of the region. When mass evictions occur, districts face increased expropriation. As the demand for new homes decreases and more properties become available, home prices begin to fall.

A researcher at the Massachusetts Institute of Technology (MIT) examined the impact of the oil industry on the real estate market in Calgary, Alberta, Canada. Like cities in Oklahoma and Texas, oil companies are a big part of Calgary's economy.

This researcher found that oil prices and other economic indicators determine up to 98% of housing price changes. After the drop in the oil market, the real estate market experiences a drop.

When we look at past financial crises, falling oil prices can potentially lead to a modest decline in housing prices. After the financial crisis of 2007 / 2008, the median cost of a single- family home in Houston fell only 2.2 percent. It tooks about 24 months

for prices to recover. Surprisingly, in 2015, when the price of oil dropped to $31 per barrel, the Houston real estate

market ended the year with a 9.2 percent increase in sales prices.

Houston has about 29% of the country's oil and gas jobs. However, Houston also has a diverse economy that helps it avoid changes in the oil market. Like Houston, Tulsa and Oklahoma City have made efforts to diversify their economy. Only about 6 percent of Oklahoma's workforce is in the oil industry.

**What does this mean for real estate investment strategy?**

The state of the oil market can affect the real estate market in energy-dependent areas from Texas and Oklahoma to Colorado and California. Home sellers may want to wait and see how the coronavirus pandemic progresses. however, with ambiguities caused by COVID-19 and low oil prices, a wave of motivated sellers will enter the market.

With oil prices still low and likely to turn negative again, more oil companies are likely to lay off workers. When combined with the current state of the US economy, now is the best time to get into a buy position.

The real estate market is a very local market. Research and follow your local economy carefully. A large tsunami of motivated sellers comes from both the single-family and multi- family markets. Prepare yourself to take advantage of this opportunity.

## Oil and real estate prices: a key connection?

Since late 2014, oil prices have been steadily declining. While that makes U.S. drivers very happy, the price cuts can hurt the recovering real estate market in areas where the oil industry has a strong reputation.

US oil prices are now below $200 per barrel, which has doubled over the same period last year. But Big Oil thrives when prices are high. That means more investment in production, more workers, more money filtering into the local economies of places like

Houston and Tulsa, where oil production is an old, established part of the landscape.

A recent Forbes report shows that there is a correlation between housing prices and oil prices in oil-dependent areas of the country. An oil boom, with high prices and high demand, means an economic boom for local economies that host oil companies. When oil goes up, more jobs are created. So workers move and buy houses. They help to keep the local economy and all is going well - until the boom and bust cycle turns into recession.

Lower prices mean lower profits for the domestic oil industry. This leads to layoffs, and workers who come in to support the boom may start looking for work elsewhere. Homes built by those workers who moved to the area specifically for work often came on the market at prices far below the original homes. There may be a time span between the decrease in oil and the decrease in housing prices, but this trend can be followed in large and small cities.

The decline in oil production during a recession also affects various other areas, including education, manufacturing, and retail. Oil companies employ directly, but they also need the support of businesses and local manufacturers, all of which may suffer if the industry collapses during a recession.

This effect is not always felt in the same way. Large industrial areas such as Houston, Bakersfield and Tulsa have other types of manufacturing and businesses to keep the economy afloat if the local oil company runs into trouble. Workers who have moved for work may not have to leave the area to find new work. And there is no need for the housing market to falter due to sudden sales and price drops.

In smaller towns where oil production forms a major part of the local economy, the situation may be different. An oil boom could inject new life into a stagnant economy- and the decrease in growth can cause a big blow to the economic health of the region.

That's what happened to Williston, North Dakota. According to Forbes, this small town boomed in 2010 when big oil came to town.

New drilling brought new workers to the company at all levels, more demand for more housing and money for businesses and local institutions.

Over the next five years, oil production will account for one-third of the jobs in Williston and the primary source of income for nearly every business in town. But when the boom ended and prices fell, the whole city suffered. With no oil company jobs and no replacements for them, the workers left for greener pastures. Williston's entire economy faltered as small businesses failed and housing prices plummeted.

The connection between oil and the housing market shows that many ways of local housing market can be affected by the larger fabric of its economy. The boom and bust cycle of oil production is not much different from the ups and downs of any other industry. And when that industry boosts the entire community, a period of collapse can be devastating.

The kind of situation Williston is facing illustrates one of Jason Hartman's key commands for real estate investors: You have to diversify. Diversifying to your real estate investments in many different areas as possible, provides a barrier against scenarios like Williston.

Communities with diverse and prosperous local economies offer the best chance for investment success. And if a crash occurs in one region, an investor with a diversified asset portfolio will not lose everything.

Oil and real estate go hand in hand - and their relationship reveals a larger lesson about market conditions and the risky business of putting all your investment eggs in one basket.

## The impact of oil prices, US interest rates on Turkish real estate market

Over the past decades, Turkey's integration into world markets has increased, resulting in the globalization of the global economy.

Turkish markets are easily affected by the policies of developed economies or any global external shock such as oil prices. In this regard, the main goal of this research is to provide new empirical evidence by testing the impact of external shocks such as: US interest rates and oil prices on the Turkish real estate market.

Turkey has limited oil reserves and its oil production was reported to be 314,000 barrels per day in 1980 and 731,000 barrels per day in 2014. In 2016, Turkey's total liquid fuel consumption averaged around 861,000 barrels per day, with more than 90% of total crude oil coming from imports. 70% of Turkey's crude oil imports were from Iraq, Iran and Russia.

However, Turkey has faced many challenges in energy security, the first major challenge being the problem of energy supply. Turkey's main energy suppliers are Russia and Iran. Any possible economic or political differences with these countries will endanger Turkey's energy security.

In this regard, Turkey should try to find new suppliers of oil resources to diversify the suppliers to reduce dependence on the main suppliers. The second main challenge is the high dependence on imported oil, domestic oil production in Turkey is not enough to supply the country's energy needs. Despite the limitation of oil production, the demand for oil is increasing rapidly. The price of imported oil should be reduced by finding more renewable energy sources for the energy supply formula. At this stage, Turkey should evaluate its alternatives for renewable energy sources such as solar, wind and geothermal. However, these resources are easily produced and renewed. Also, it emits less pollutants into nature and can never be discharged around the world. Renewable energy sources in Turkey include: hydropower, solar wind, geothermal, biomass and waves.

Turkey is the third country in the world with 1.28 million tons of oil equivalent (MTOE) in terms of geothermal energy production

worldwide, especially the Aegean Sea has a huge geothermal energy potential.

The consumption of non-renewable energy in Turkey has continuously increased with the increase of its population. The consumption of non-renewable energy (kilogram of oil equivalent) has increased by 220% between 1980 and 2014. One of the world's pioneer producers of textiles, ships, motor vehicles, consumer electronics, home appliances, construction materials and other transportation equipment, led to an increase in energy consumption, i.e. oil consumption. According to the existing literature, oil price changes have a significant effect on various economic variables. In this regard: they have shown that the effect of oil prices on economic indicators can be different in developed and developing countries. These different findings can be attributed to different economic factors, for example: (oil-importing countries vs. oil-exporting countries). An increase in oil prices can be economically bad for oil-importing countries, but economically it is good news for oil-exporting countries. However, Turkey is a country that imports a large part of its oil needs from abroad. Therefore, the increase in oil prices has a negative effect on the current account balance and economic growth of Turkey and other economic variables.

In this regard, if the price of crude oil increases, inflation in oil-importing countries such as Turkey will increase, which will lead to an increase in interest rates. Therefore, any increase in interest rates can affect financial costs, which in turn leads to an increase in housing prices. In this sense, the main objective of this research is to provide new empirical evidence by testing the impact of crude oil prices on the Turkish real estate market through the domestic interest rate channel. In addition, this study aims to test the impact of the US interest rate on the Turkish real estate market through oil prices and domestic interest rates.

Shocks from developed economies such as the US economy can affect the Turkish economy through various transmission mechanisms such as interest rate channels and exchange rate.

Turkish markets have the potential for financial market fluctuation due to any changes in US monetary policy, particularly the interest rate channel. As any increase in US interest rates, investors will continue to withdraw their capital from emerging markets such as Turkey. Therefore, any change in US interest rates may affect Turkish markets.

Over the past decades, Turkey has faced several critical reforms, including ensuring the operational independence of the central bank to support the banking sector and financial market and removing any restrictions on capital flows. As a result of these reforms, international trade as a share of gross domestic product (GDP) has increased from 18 percent in 1981 to 61 percent in 2018, and total exports have increased from $2.9 billion in 1981 to $5.166 billion in 2018. In addition, housing assets in Turkey have experienced significant growth in the past decades. The housing market represents the largest asset class for Turkish households with a housing ratio of 70% in 2018.

However, developments in the real estate market stand out as one of the most significant economic concerns in Turkey, and the joy in the housing market is considered as the most important indicator of macroeconomic performance. Numerically, Turkey's real market economy, worth 5.19% of total GDP, offers great investment potential.

In addition, the real estate and construction sector accounted for $1.4 billion and 8.24 percent of total Foreign Direct Investment(FDI). According to the Knight Frank House Price Index, Turkey was ranked 55th in terms of annual price growth index. Also, urban renewal projects have started in different cities of Turkey. It appears that about 7.6 million housing units are expected to be demolished and rebuilt over the next two decades.

Therefore, this situation increases the importance of researches on the variables affecting the real estate market. The purpose of this

paper is to provide empirical evidence of the effects of oil price on the Turkish real estate market. In addition, this study aims to test the

impact of US interest rates on emerging markets such as Turkey, especially after the 2008-2009 Global Financial Crisis (GFC).

Many empirical studies have investigated the importance of the real estate market in Turkey. Some of these studies have examined the relationship between the real estate market and macroeconomic activities. This relationship has shift particular attention in the literature because housing investment has been considered as a major indicator of economic activity, especially after the GFC in 2008. GFC has raised concerns about economic stability in Turkey, 2008 and drawing attention to the relationship between financial markets and macroeconomic variables (exchange rates, interest rates) and the spillway effect of external factors (US interest rates).

After the 2008-2009 crisis, the Central Bank of Turkey began to monitor the development of financial markets more closely and initiated some macro-precautionary measures in monetary policy channels to address and overcome these concerns. Therefore, the credit provided by the banking sectors to the markets as a percentage of GDP increased by almost 70% between 2019 and 2018, and the stock of housing loans as a percentage of GDP increased during the years 2018 to 2019 and reached above 10% by the end of 2018. It is expected that the increase in housing credits will continue in the future.

In the literature, the effect of changes in interest rate channels on housing price is defined as the housing price channel of monetary policy. In this regard, monetary policy can affect the real estate market through different channels (direct and indirect mechanisms). In direct mechanisms, monetary policy channels can affect the real estate market through housing user cost, housing supply, and expectations from future movement of housing price. However, the effect of housing user cost is considered as the main direct effect of monetary policies on the real estate market. In indirect mechanisms,

monetary policy channels can affect the real estate market through the standard credit channel.

Accordingly, when interest rates increase, the value of people's wealth for housing decreases as real housing prices decrease due to reduced demand for housing. Decrease in people's wealth may lead to a decrease in housing demand and a decrease in housing prices. On the other hand, an increase in interest rates leads to an increase in mortgage repayments, which leads to a decrease cash flow of households with limited credit and ultimately to a decrease in housing prices.

The impact of the US interest rate on the world markets has attracted a lot of attention in the past years. tested the impact of US interest rate spillway on the financial markets of 12 countries in the Asia- Oceania. These findings showed a significant negative impact of US interest rates on the financial markets of 12 countries in Asia and the Oceania.

US interest rates have a powerful impact on global emerging financial markets. Similar results were found, showing that US interest rates have a strong influence on many emerging financial economies. Moreover, this effect has a stronger effect on markets with economies close to the US. Similarly, it used a VAR model and showed that there is a significant effect of the international spillway effect of US interest rates on advanced and emerging economies.

Tested the effect of US monetary shocks on interest rates and exchange rates in 26 selected countries. Using the VAR model, the results showed that countries with tighter controls experienced less devaluation. Tested the effects of US interest rates on local interest rates and exchange rate channels in East Asian countries. Using VAR estimation techniques, the authors find that the local interest rate channel responds strongly to changes in US interest rates. In contrast, it showed that US interest rates had no effect on Indian financial markets.

# Chapter Nine

## Housing poverty

About housing poverty in Iran, one of the most common indicators is the household density index in a residential unit. This measure has been reported in urban and rural areas of about 1.2 households per residential unit, thus, taking into account the existence of 6.9 million urban households and 6.4 million rural households in 1380, it is estimated that 1.3 million residential units in cities and 430,000 residential units in villages will face housing shortage. This shortage basically shows itself in the number of rooms available to the household and then the interference of the members lives of one household and several households with each other. This type of poverty causes a decrease in the individual's abilities to study and improve skills, which keeps the members of poor families poor, besides, the interference of the lives of opposite sexes causes an increase in social damages. In fact, inappropriate housing turns into a "space trap". This means that in general, the birth of a person in the low income classes automatically reduces his chances to be in the higher income groups and classes compared to the higher income classes. We call this factor the "class trap" of poverty. Inadequate housing, although it is ultimately caused by social

factors, but it also puts another knot on people's feet or creates a space trap and makes it very difficult for them to get out of the circle of poverty. In fact, although living space is a product of social relations but it has a mutual effect on these relations. This effect can be compared with the technical progress of the production tools, which, although they are the product of certain social relations, can transform these relations by transformation the production organization. Conversely, backward tools, keep production and social relations backward. "Space trap" of housing is produced in two ways, one is internal quality and the other is external quality. External quality refers to the geographical location of the housing. In Iran, housing located in informal settlements and rural areas means falling into a "space trap". Informal housing, which is created due to the fact that low-income people are not taken into account in urban and housing programs, and in fact, it is considered the automatic planning of low-income people to provide their own housing, creates a spatial trap for them both internally and externally. Internally, the house is built with inappropriate building materials and equipments and insufficient level of infrastructure and externally, they have the least access to basic services. Also, the spatial separation between classes deprives the low-income people from living with other classes and the civil promotion that results from it. In this way, apart from the traditional contrast between the city and the village, which creates a kind of spatial trap for the village, a larger spatial trap is created in the informal settlement. In table number 5, we have shown a corner of the dimensions of informal housing in Iran. In this table, we have also gone to small cities to determine its prevalence.

## The impact of poverty on housing

The most widely used definition of poverty in the UK and across Europe describes people as experiencing poverty if their household

income is less than 60% of the national average, after taking into account the number of adults and children in the household. Around

a fifth of the UK population experiences poverty in any given year, but around a tenth experience 'persistent poverty', defined as having an income poverty in at least three out of four years.
Evidence that shows poverty affects housing conditions is generally stronger than evidence that shows housing conditions affect poverty. Low incomes prevent access to many potential housing options or makes them difficult to maintain. However, the housing system acts as a buffer against the effects of poverty with social housing, housing benefit and support for homeless people. So, although people living in poverty are at greater risk of poor housing conditions, they generally avoid it.

## The impact of housing on poverty

Housing costs constitute the most important and direct impact of housing on poverty and material deprivation. Overall, 5% or more of the UK population, or 1.3 million people more, experienced poverty in the UK in 2010 / 11 which the impact of housing costs on income was taken into account. Not taking this into account significantly underestimates the risk of poverty and material deprivation for unemployed households, ethnic minority groups, single people, rentees and Londoners. For example, 18 percent of private renters are in poverty before housing costs are taken into account, and 38 percent are in poverty after housing costs are taken into account. It also means that the set goals in the 2010 Child Poverty Act (based on income before housing costs) ignore the one million children living in poverty.

Variations in housing costs between locations also have a significant impact. When housing costs are taken into account, the number of Londoners living in poverty almost doubles to just over two million. Those in the south east of England are also affected.

The number of people in "poverty caused by the cost of housing" (not poor before housing costs, but poor after taking them into account) has increased over the past two decades.

Low rents, such as councils and housing association rents, make an important contribution to reducing the degree of "poverty caused by the cost of housing" and material deprivation among social tenants. Social housing is heavily targeted for people on low incomes and has been shown to be the "pro-poorest" and the most redistributor main aspect of the whole welfare state. However, 29 percent of social renters live in poverty before paying housing costs, and 43 percent live in poverty after paying housing costs, despite submarket rents.

Housing benefits for tenants have a major contribution in reducing "poverty caused by housing costs" and in terms of importance, it ranks second after housing costs. However, many tenants do not realize that housing benefits are available to employed people and only about half of eligible employed tenants receive these benefits. Welfare reforms mean that hundreds of thousands of social and private tenants will face a shortage of housing and rent to pay. These, however measured, are likely to increase poverty. US and some UK evidence suggests that it may lead to increased food insecurity. It is not widely recognized that for more than 20 years, home owners have accounted for more than half of people living in poverty (before housing costs) in the UK. Over the same period, the proportion of all people living in poverty who were social tenants fell from 41% to 29%, and the proportion in the private rented sector rose from 8% to 19%, reflecting a change in the size of these tenures.

However, after housing costs are taken into account, homeowners make up only 37 percent of the poor people because many have

paid off their mortgages and have little or no housing costs. If " attributed rents" (the value homeowners receive for their homes)

were included in the household income measurements, as in some national tax systems, income inequality is reduced and three- quarters of the poverty of pensioners and many homeowners will be reduced. Poverty would disappear.

Housing equity has little impact on poverty because the poorest homeowners have the least equity and often cannot release it. Homeowners receive only 2% of total government support for housing costs. There is very little support for homeowners who lose their jobs, which has a huge impact on poverty. However, poor homeowners are less likely to live without essential items than renters with the same income. It is not possible to say whether these differences are due to self-employment or to differences in average lifetime earnings.

There is considerable evidence shows that poor housing conditions affect some aspect of child development or elements of adult health.

## The impact of housing on employment

The main motivation for financial work is the level of wages rather than housing conditions. However, low-cost housing such as council houses and housing associations make it easier to 'pay for work'. While having a positive impact on poverty and material living conditions, housing benefits can create a poverty trap.

For any set of low-wage job opportunities, housing stock and rents, there will be a balance between using housing benefits to prevent poverty, material deprivation and housing deprivation on the one hand, and avoiding the 'poverty trap' on the other.

Regional location plays an important role in the "housing effect" on employment and potentially on poverty, as different labor markets offer very different opportunities. Evidence suggests that the ability

to move home affects employment, but the effects do not appear to be significant. Most social owners provide services to prevent

poverty and increase employment, and many individual plans seem effective, although the overall impact is difficult to measure.

## Policy consequences

Policy should pay more attention to the neglected links between housing, income and well-being. Those interested in the link between poverty and housing should consider measuring poverty after accounting for housing costs, at least as a complement to income measured before housing costs. They should also pay special attention to groups living in poverty due to high housing costs.

Those who want to use housing policy to reduce poverty should aim to reduce housing costs, especially for renters, or at least limit further increases. This can be achieved through the preservation and development of traditional social housing, and in England by limiting the conversion of social housing rents to "affordable rents" (capped at 80% of market rents). Rent levels in the private rented sector are an important part of the picture, but are largely unregulated.

Benefits are another key factors in housing costs. The impact of reducing housing benefits on the residual income of claimant households, material deprivation and location relative to job opportunities needs to be monitored. Increasing acceptance of "work" and more efficient management of housing benefits / universal credit should be encouraged and eligibility for universal credit for low income employed home owners should be increased. Continued efforts are needed to reduce the poverty trap effect of housing benefits by creating universal credit reforms. Local authorities need support in designing council tax benefit systems to limit work incentives.

Monitoring and maintaining good housing conditions is essential for all households in all periods. Poor housing conditions affect health and may have long-term effects on income and employment.

Those who want to use housing policy to increase employment should consider prioritizing low-cost tenure for those who can only earn low wages. Building houses creates jobs and may have a greater impact on employment and poverty than many other types of economic activities. Special attention should be paid to the location of new houses in relation to job opportunities.

People's experience of poverty, material deprivation and housing conditions are intertwined. Housing is an important part of people's material living conditions and contributes to their life chances. A greater understanding of how poverty and employment traps differ by region and rent levels is needed. The importance of the link between housing, poverty and material deprivation deserves more recognition in politics.

**7 things you should know about poverty and housing**

1. There are different definitions of poverty
   There is no international consensus on how to measure poverty. In general, the Threshold of absolute poverty is determined by measuring survival needs such as food and shelter for households of different sizes.
   The United Nations Development Program definition of poverty acknowledges that poverty cannot be measured by income alone. Instead, it takes a multidimensional approach that includes health, education and living standards, including access to clean water, sanitation, electricity and housing quality, as each plays a fundamental role in allowing families to lead a decent life.

2. People living in bad conditions are not necessarily who (or where) you think

A family can fall into poverty for many reasons—medical emergencies, product failure, sudden unemployment. In the United States, two out of five households do not have enough savings to pass through a financial shock, while one in five children struggle with insufficient resources.

Worldwide, a child under the age of 15 dies every five seconds, which is largely due to preventable causes that exacerbate poverty and although the living conditions of the poor are often considered confined to cities, but poverty rates in rural areas are still higher than in urban areas in several countries, including Romania, Indonesia, and the United States.

3. Finding affordable housing is difficult

   In many regions of the world, there are far more low-income households than affordable housing units. In the United States, for every 100 renter households classified as low-income, only 35 rental units are both available and affordable. Globally, the housing affordable gap, meaning the difference between the available income for housing and the market price of a standard housing unit in a region, is nearly $650 billion per year.

4. A full-time job (or two) may not be enough for a family to afford a decent place to live

   Nowhere in the United States a worker earning the prevailing federal or state minimum wage can't rent a two-bedroom apartment without paying more than 30 percent of their income. In fact, according to the National Low Income Housing Coalition, a worker must work at least nearly 127 hours per week, hold more than three full-time jobs to afford a two-bedroom rental, or work 103 hours per week and more than 2-5 full-time job to rent a bedroom.

5. Owning a house (or apartment) doesn't mean you don't live in bad

According to Harvard University's Joint Center for Housing Studies, nearly 38 million American households—5.31 percent of all households—pay more than 30 percent of their income on housing. which forces them to maintain an almost impossible balance by making tough decisions about food, transportation, and health. This is despite the fact that 1 out of every 6 households pays more than half of their income for housing and it is considered extremely expensive.

Housing poverty can also include things like energy and fuel poverty and lack of access to water and sewage. According to the United Nations Department of Economic and Social Affairs, nearly 15% of people around the world do not have access to electricity. When people have access to energy, those with the lowest incomes often end up paying a disproportionate share of the income for energy. According to the Centers for Disease Control and Prevention, an estimated

11 percent of the world's population lacks access to an improved water source, while 25 percent lack access to adequate sanitation.

Insecure tenure, or the threat of eviction, is a reality for many residents around the world, and it deprives the people of the most basic physical, economic and psychological security of adequate shelter. More than 20 percent of the world's population struggles daily to stay in the homes or land they live on, and more than 70 percent of the world's population does not have legal documentation of their property rights.

6. Poverty endures, but so does home ownership

But a safe, convenient and affordable place to live can make a real difference in a family's life. Home ownership has long been the main way for families to create wealth. Home ownership also offers stability because monthly mortgage payments are predictable while rents can increase year to year. A stable

home is important for academic success. Children whose families move in search of more affordable

housing, they change schools and face problems to continue their studies.

7. Housing is health

   Housing quality has major effects on people's health. A house with mold, rodents and pests can cause chronic respiratory diseases including asthma. According to the World Health Organization, overcrowded and low quality housings are a danger to the health and physical well-being of families and their neighbors and facilitates the spread of infectious diseases such as tuberculosis, hepatitis, dengue fever, pneumonia, cholera and malaria. This is especially true when faced with spread of new infectious viruses and germs - such as COVID-19, that require people to stay indoors for extended periods of time.

   Habitat for Humanity proves that affordable housing can be a path out of poverty for families in need, and every day you help us partner with families in the United States and nearly 70 other countries to create stable homes and vibrant neighborhoods.

   Together, we've helped millions of people build or improve the place they call home. With your help, we also support improving access to adequate and affordable shelter and provide a variety of supportive housing services that enable families with limited means to make necessary improvements to their homes as time and resources allow.

## How can we break the cycle of housing poverty in Asia?

One of the key ways to deal with the effects of poverty is to provide adequate housing. A decent place to live, a house, doesn't just keep the rain away. It is a safe, healthy, pleasant and productive environment.

In addition, a good home means less stress for women and children. Habitat for Humanity helps families gain security of tenure by

eliminating the fear of eviction and making lockable doors for safety and privacy.

For us these are simple needs, but for many it involves much more. This means that they can make the most of life, be more productive and have the right environment for their children to study and grow. This is the true value of a home. Something that millions of people in the Asia and Oceania region may never realize. Most households have neither clean water nor sanitation, which leads to the spread of disease and often leads to death.

**Poverty statistics in Asia**

Across the Asia and Oceania region:

About 700 million people do not have electricity and instead use solid fuel for cooking and heating.

The use of cooking stoves causes indoor environments pollution and kills about 2 million children under 5 years of age per year.

Migration to cities also leads to a global demand for about 20,000 new homes each day.

## Demand for suitable and affordable housing

It is possible for everyone, from private companies to financial institutions, governments and communities, to provide affordable housing for all. Housing sector organizations can also use their experience and reputation to advocate for pro-poor housing policies. We have been working in Asia and Oceania since 1983, delivering affordable housing to 1.5 million people. But, this is not enough and we want to push ourselves further:

Provide safer and more affordable homes for 15 million people in Asia-Oceania by 2020.

Engage another 10 million people as volunteers, advocates and supporters to contribute to this project.

By 2030, the world's population will be about 8.3 billion, and half of that will be in Asia. That's another 700 million people: everyone needs a home.

**Africa's growing cities face housing challenges and opportunities**

Considering that 60 to 70 percent of urban African households live in slums, the report requests for a new approach to housing, lending and land policies.

Johannesburg, 1 December 2015 – Africa is facing a major housing crisis due to rapid urbanization and growing slum populations. New and targeted approaches to affordable housing are essential if countries are to use demographic transitions to expand cities, stimulate economic growth, and expand job opportunities, according to a new report by the World Bank Group.

The report titled Housing Investment in Sub-Saharan Africa shows that Africa could have 1.2 billion urban dwellers and 4.5 million new residents in informal settlements annually by 2050 who most of them are not able to pay for basic official housing or access to mortgage.

Mamata Murthy, Interim Vice President of the World Bank Group for Africa, said, "Good quality housing is very important for economic growth and social inclusion. Governments should work hand in hand with the private sector to facilitate investment in housing by expanding access and improving the quality of existing stock, while making it easier for people to access financial resources for land and housing."

The report looks at trends across the region and identifies opportunities in fast-growing cities. The recognition of informal housing as the only available option for the vast majority of Africans indicates the need for new approaches in housing policy.

Ede Jorge Ijjasz Vasquez, the senior executive of the social, urban, rural and resilience department of the World Bank Group said:″ In many African countries, only the top 5 to 10 percent of the population can afford the cheapest form of formal housing. As a result, 90 percent of Africans live in informal housing, where living

conditions are often nonstandard, unsafe, and without basic services such as water, electricity, and sanitation. This report shows that

targeted interventions in the informal market can rapidly improve the quality of housing stock in a number of African countries″ . These programs are too costly for the government, out of reach for the urban poor, and have not significantly increased the amount of affordable housing.

These reports recommend that scarce government resources should instead target informal housing in low-income areas and households-improving infrastructure, improving land management and planning regulations, and expanding access to financial resources through microloans, credit groups, and credit cooperatives. Only 5 percent of adults in sub-Saharan Africa received a loan from a formal financial institution last year, this is half the rate in other developing regions such as South Asia or East Asia and the Oceania.

Jonas Parby, an urban expert of the World Bank and one of the urban experts of the World Bank, says: Apart from the immediate and obvious benefits of adequate housing, a well-performing housing sector leads to economic growth which can improve livelihoods, create jobs and expand the market for goods and services.

Housing construction and ownership not only benefits families, but also creates jobs for stonemasons, carpenters, electricians and other trades. For every house built, five jobs are created. While investment in formal housing in Africa is low compared to any other region, a more strategic approach to the housing sector encourages private investment.

The report also notes that while slum populations are shrinking elsewhere, Africa is growing. If current trends continue, the majority of people living in slums will be in African cities, making the need for adequate and affordable housing more urgent than ever.

## Housing market trends and challenges

This chapter examines current trends and challenges in OECD housing markets and provides a context for further policy analysis in the report. It covers housing price trends and affordability, the dynamics of housing supply and demand, the role of housing in the economy, its equity implications, and the impact of housing on the environment. This chapter also briefly discusses long-term trends that are likely to shape the future of housing.

**Housing plays an essential role in our lives**

Access to shelter is a basic human need and a key determining factor of individual well-being. Accessing to suitable and high-quality housing shapes people's social life as well as their access to health care, education, job opportunities and recreational activities. Housing also affects daily well-being as the home is the center of family life and increasingly professional life, with the widespread adoption of telecommuting during the COVID-19 pandemic.

**Housing combines the characteristics of both consumer and investment**

In the Organization for Economic Co-operation and Development(OECD) countries, housing is, on average, the largest item of expenditure across all income groups goods and it has allocated a larger share of total household expenses in recent years. For most households, housing is also their largest lifetime investment, typically financed with debt and most of their wealth. On average, housing accounts for 50% of total household wealth in OECD countries. a figure that rises to more than 60 percent for middle-income households (see Chapter 2). The fact that housing combines the characteristics of a consumption and investment good has important consequences for public policies, especially for its tax treatment.

**Promoting home ownership has long been a goal of many OECD countries**

Home ownership is an ambition for many households for a variety of reasons, including wealth accumulation and a sense of financial security, which is why widespread home ownership has been an enduring goal of governments. Homeownership support has also been justified by the positive socio-economic outcomes (e.g., better maintenance of housing stock, greater civic participation) associated with homeownership. Although similar results could potentially be achieved with other forms of tenure such as sustainable long-term rent.

Widespread home ownership can also have negative effects, including reduced residential mobility, incentives for homeowners to limit the local housing supply, and potential negative side effects such as increased energy consumption, land sealing, and traffic congestion where home ownership is associated with certain asset structures. (such as detached houses).

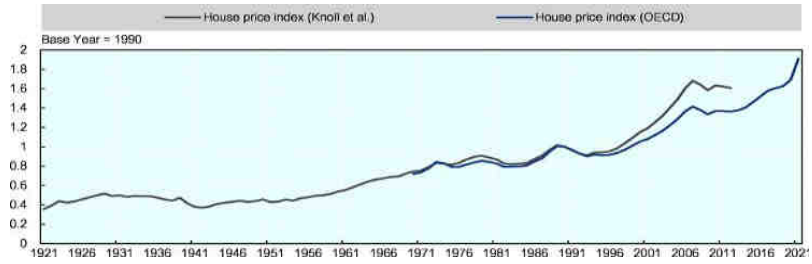
**Housing has become one of the most pressing political challenges of our time**

The concentration of demand in areas of limited supply has increased and worsened housing prices in many OECD countries. Unprecedented growth of housing prices has made the younger generations to own houses and become wealthy. Current conditions of rising inflation and potentially tighter monetary policies can have mixed effects on possible borrowers and buyers. The performance of housing markets also has wider social, economic and environmental consequences, including for social cohesion, financial resilience, residential and intergenerational mobility and the transition to a low-carbon economy(LCE). The interconnected challenges of housing market

comprehensiveness, efficiency and environmental sustainability require a wide range of policy reforms.

Housing affordability has declined significantly in both the property and rental markets. Real housing prices have experienced significant and stable increases over the past century, with strong growth since the mid-1990s. Figure 1.1 shows the average real house price index for 14 developed economies between 1921 and 2012 based on house price data by Knoll, Schularick, and Steger and from 1970 to 2021 based on the OECD house price data warehouse. While there have been fluctuations, the chart shows strong and continuous growth in real house prices, which have increased six fold over the past century. There has been a significant acceleration in housing price growth since the mid-1990s, which was only briefly interrupted by a temporary decline in housing prices following the global financial crisis.

**Figure 1-9 Real housing price index, average of 14 countries, 1921-2021**




**Note:** Average of Australia, Belgium, Canada, Denmark, Finland, France, Germany, Japan, Netherlands, Norway, Sweden, Switzerland, UK, USA. House prices are adjusted based on CPI.

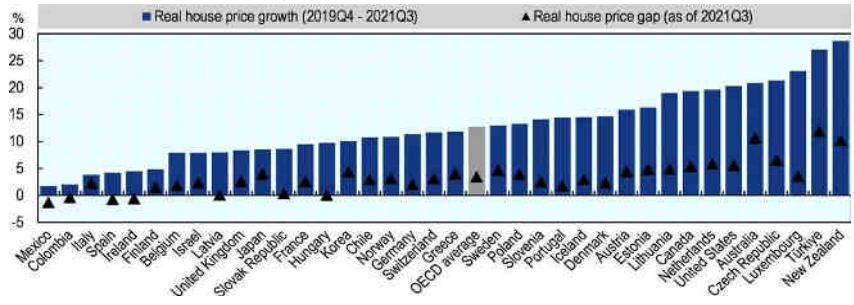
**The sharp growth in housing prices during the COVID-19 pandemic has further increased housing prices**

Real house prices experienced rapid growth during the pandemic, increasing by an average of 13 percent (unweighted) across OECD countries between late 2019 and late 2021 (Figure

2-9). Housing prices rose in every OECD country, but with changes in growth rates. 11 countries saw an increase of more

than 15 percent, while six countries saw an increase of less than 5 percent. House price growth in almost every country was above the baseline before the pandemic, suggesting that real house prices are now higher than that if the pandemic hadn't happened, it would exist. While house prices have historically risen much faster in urban areas, increased demand for living space and increased telecommuting have boosted prices in the suburbs surrounding major cities.

**Figure 9-2 Real housing price growth and the real housing price gap, 37 OECD countries**




**Note:** The real housing price gap reports the percentage gap between the observed housing prices in the third quarter of 2021 and the country-specific trend estimated for each country by the housing price filter. The latter represents the level that housing prices would have reached if the pandemic had not occurred. The real housing price index is the ratio of the nominal housing price index to the reduction of private consumption in each country. Information about Costa Rica was not available. The OECD average is a weighted average of 37 OECD countries with available data.

**Rising housing prices and rents have made housing cheaper in many OECD countries**

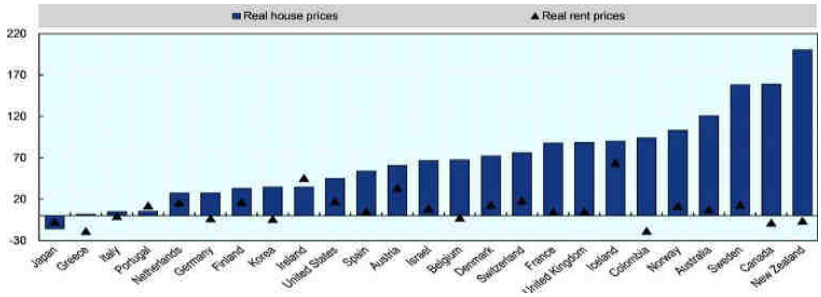
House prices and rents have grown faster than general inflation in many OECD countries over the past 20 years (Figure 1.3).

Overall, house price and rental trends are expected to follow

similar patterns. However, recent increases in the price-to-rent ratio may indicate an increase in value in the housing market.

The important point is that, the increase in real house prices and rents over the past two decades has varied significantly across countries. For example, real house prices in New Zealand nearly tripled between 2000 and 2020, while Japan saw real house prices decline over the same period (Figure 9-3). Real rental prices have increased relatively over the past 20 years. Most countries have seen real rental price increases of less than 20 percent, but renters in Iceland have faced real rent increases of more than 60 percent. In nine countries, real rental prices fell over the observed period. It should be noted that housing prices and rents have varied within countries, with strong growth in housing prices and rents in urban areas, where demand pressures are high and housing supply is limited.

**Figure 9-3 Percentage changes in real housing prices and rents, 2000-2020**




## Income spent on housing has increased

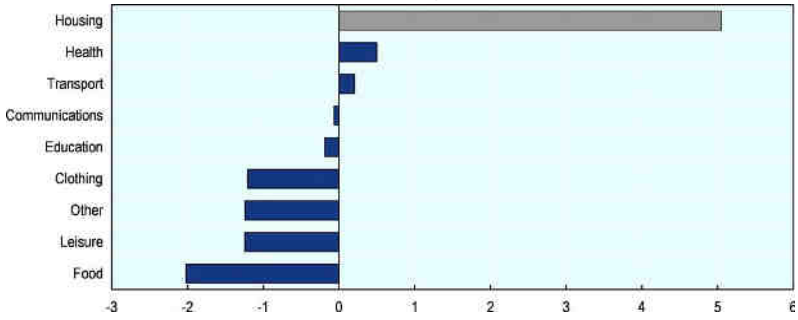
Housing constitutes the largest item of expenditure in the household budget and absorbs more than a third of the total household expenditure for households in the bottom quintile and a quarter of the budget for households in the upper quintile.

Between 2005 and 2015, the share of middle-income housing expenditures (that is, the expenses of households that earn

between 75 and 200 percent of the average income) in total household budgets increased by an average of 5 percent across

23 OECD countries (Figure 9-4).) The share of some other household expenditure items, including health care and transportation, also grew over the same period, although at a much lower rate. Housing costs in the form of rent and mortgage payments often represent a significant financial burden for households, particularly at the lower end of the income distribution. In 2019, on average across OECD countries, the average mortgage burden includes repayment of principal and interest paid by owners (owners are not counted as they do not face mortgage costs) was 15% of their disposable income. While the average rental load was 22%.

**Figure 9-4 Changes in the share of expenses of middle income households, average of 2005-15**




**Remark:** Housing expenses include real housing rent, real estate rent, maintenance and repairs, water supply and diverse services, electricity, gas and other fuels.

**Supply-side restrictions have helped lower housing prices.**

**The level of housing prices and rents results from the interplay between housing demand and housing supply, and supply is less responsive in the short term.** Housing supply depends on new residential construction as well as renovation and upgrading of existing housing stock. Supply adjusts more slowly than demand because new structures take time to plan and build,

allowing for increased price pressure. A slower supply response also leads to price volatility and boom and bust periods.

**Natural and construction barriers to construction as well as housing policy choices have contributed to low supply response and exacerbated the price effects of increased housing demand.** Natural geographic constraints as well as regulatory constraints, including land use restrictions and zoning regulations, contribute to slowing the response of housing supply to growing demand. These restrictions are particularly obligatory in highly urbanized urban areas, where population density is high and housing market regulations are more common.

**Other supply-side factors contributing to upward pressure on house prices include higher construction costs and lower public investment in housing development.** Rising construction costs have helped lower housing prices in many countries. Between 2000 and 2019, construction costs for new residential housing increased by more than 70% in the Organization for Economic Co-operation and Development-European Union (OECD-EU) region.

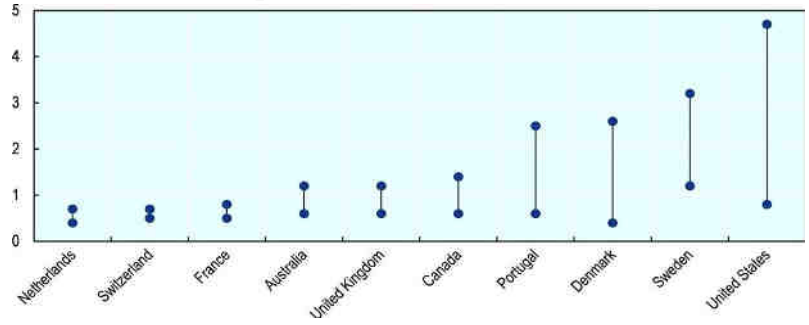
Energy efficiency and increasingly rigidly environmental regulations are also contributing to rising construction costs. At the same time, governments have invested less in housing construction. Over the past two decades, public capital transfers (i.e. public transfers to non-governmental organizations) for housing development have declined by more than 50% on average in OECD countries, reaching a level of 0.06% of GDP in 2018. While direct government investment in housing development has decreased by 80%, accounting for 0.01% of GDP in 2018.

These trends are also reflected in the decline in the share of social housing in the total housing stock in OECD countries, which has contributed to lower housing prices, especially for low-income households.

**The responsiveness of supply to changes in housing demand varies significantly between and within countries.**

Several studies estimate national housing supply elasticities and analyze their foundations. In a subset of OECD countries, Bettin and Ziman found that housing supply in metropolitan areas in the United States and Sweden is elastic with supply elasticities greater than two, although there is great variation within the country in urban areas. (Figure 5-9). Responsiveness of housing supply is particularly low in the Netherlands, France and Switzerland, where the elasticity is between 0.4 and 0.8. Within-country variation in housing supply elasticities is particularly high in some countries, ranging from 0.8 to 4.7 in the United States and from 0.4 to 2.6 in Denmark. This emphasizes the importance of spatial alignment of supply with demand, meaning that construction should occur where demand is highest. Disharmonies can also be related to the type of housing, where profitable houses are in rich, while more affordable and usually more urgently needed apartments are usually in short supply.

**Figure 5-9 Housing supply elasticities across urban areas in a sample of OECD countries, 2019**




**Note:** Housing price elasticities are calculated by regressing changes in real housing prices on changes in residential construction using an instrumental variable approach to address

potential endogeneity between construction and housing prices. A supply elasticity of 1 (unit) indicates that any change in

housing prices leads to a proportional change in housing construction. A higher elasticity of supply means that for a given change in house prices, house building expands more.

**At the same time, housing demand has increased by various structural, economic and political factors.**

**Housing demand is influenced by access to home ownership as well as structural factors that determine housing preferences.** Demand drivers can be classified under different categories: those that structurally change the characteristics and location of housing demand, including demographic changes and urbanization, and those that make housing more or less accessible to wider segments of the population, such as lower interest rates and increased availability of housing finance.

**Favorable macroeconomic conditions in recent decades have made housing more accessible.**

**The main factor behind the sharp rise in house prices over the past two** decades has been the historic decline in real interest rates, which has been fueled by expansionary monetary policies following the global financial crisis (OECD).

Low interest rates have not only reduced housing debt financing costs for households, rather, it has encouraged investment in real estate by institutional investors and high net worth individuals in search of higher returns.

In addition, growth in disposable household income tends to increase housing demand and has been a major driver of rising home ownership rates in some OECD countries, including Denmark, Finland, Spain and the UK.

**Developments in housing finance markets have made housing more accessible, although some of these innovations may have weakened the flexibility of the financial system.** Financial deregulation, including the easing of borrowing conditions and new housing finance products, has promoted the

development of mortgage markets in many OECD countries over the past 50 years.

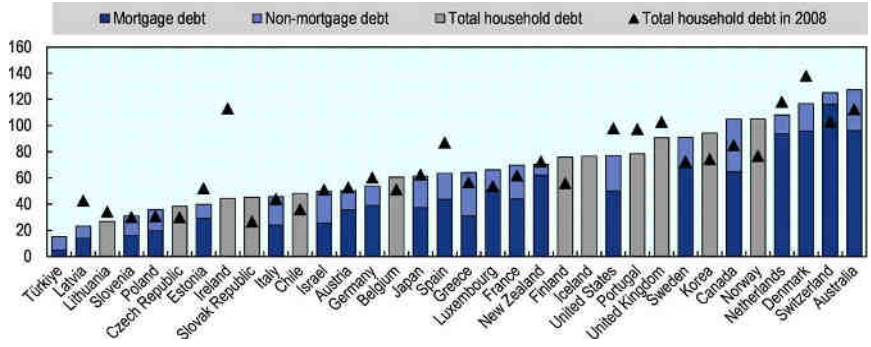
These trends have made housing finance resources more accessible to a wide range of households with credit limit and have been associated with a significant increase in housing demand.

After the global financial crisis, the regulation of structured real estate financial products was tightened and the credit quality of these products has generally improved.

More recently, growth investors have promoted crowdfunding tools in real estate finance (e.g., real estate investment trusts (REITs), while tighter oversight of traditional mortgage lending institutions has led to the rise of non-bank leveraged institutions (e.g. non-banks). Bank mortgage creators), along with the boom of the real estate market in some countries.

In this context, it should be noted that although mortgage debt decreased in several countries that faced a severe recession in their housing market after 2008, Total household debt as a share of GDP has risen since 2008 in most OECD countries, sometimes higher than before. The levels (Figures 6-9) highlight this fact that while these innovations may increase liquidity in real estate markets, there is a risk of increasing housing prices and reducing financial flexibility.

**Figure 9-6 Household debt and mortgage to GDP of OECD countries in 2008 and 2018**



**Note:** Household debt was not available for Iceland and Turkey in 2008

**Policy support for home ownership, while aimed at increasing access to the housing market, has helped to increase housing demand**. In many countries, governments have provided stability policy support for home ownership. for example, through the mortgage interest deduction (see Chapter 3). However, where housing supply is inelastic, these types of supportive measures have pushed up housing prices.

**Urbanization has affected the geography and concentration of housing demand, putting more pressure on areas that already face supply constraints.** The transition from industrial to service-oriented economies has led to the concentration of economic activities in urban areas, which is associated with a multitude of professional and educational opportunities.

Globalization contributes to the attractiveness of large metropolitan areas as superior infrastructure networks link them to the rest of the world, while the concentration of cultural, social and recreational activities has increased the appeal of urban lifestyles.

Housing prices in major cities have also been inflated by the globalization of housing investments, which has led to an increase in institutional investors and high-net-worth individuals investing in overseas property in search of high returns.

**Demographic changes have both increased overall housing demand and changed structural demand patterns in terms of property characteristics and geographic location.** Demographic factors such as migration and aging of the population as well as changes in marriage and divorce rates have led to more and smaller families.

This trend has been accompanied by an increase in average floor space per person, in part because fewer people share the same living space and the available housing stock takes time to adjust.

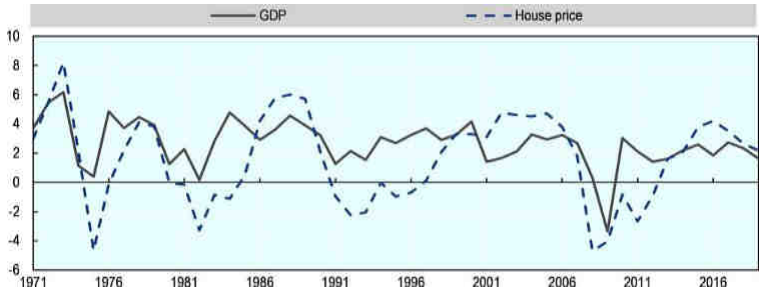
**Changes in the housing market have a significant impact on the economy**

**Housing plays an essential role in the economy.** Construction accounts for an average of 6% of GDP in OECD countries, while housing investment constitutes about 20% of gross fixed capital accumulation.

Changes in the housing market affect the real economy through several channels. Changes in the housing market, including changes in housing prices, rents, or mortgage interest rates, affect household income, wealth, and cost of living. Therefore, fluctuations in the housing market can affect aggregate demand, inflation, and residential investment.

Evidence shows that the business cycle is strongly related to fluctuations in housing-related activity and housing prices. In fact, housing price changes precede business cycle fluctuations (Figures 7-9), making them important indicators for predicting changes in economic activity.

**Figure 9-7 the percent of annual change in housing prices and GDP, 1971-2019**




**Access to housing finance also has wider effects on the economy.** Well-functioning mortgage markets play a key role in providing access to housing and allow housing consumption to smooth out over time. However, they can also confront families with serious financial troubles when they face repayment or

home equity problems. High levels of mortgage debt can also increase economic fluctuations by intensification of recession

and disturb economic performance. Significant declining pressure on housing prices often has significant adverse effects on economic activity through wealth effects that reduce consumption.

Slumped housing markets worsen bank balance sheets and affect lending activities. These effects are particularly harmful when large amounts of debt are involved.

Previous work by the OECD has also shown that rapid growth of household debt is an early warning indicator of economic recession.

**The smooth functioning of the housing markets is also the key to the efficiency of the labor market and the ability of the economy to deal with structural changes.** Residential mobility is very important for the efficient allocation of human capital in the job matching process. Especially in periods of changes in economic structure that require geographic or sectoral reallocation of resources (for example, from industry to services), high residential mobility increases the speed of economic adjustments and thus limits adverse effects on overall economic performance.

Empirical evidence shows that residential mobility is closely related to dynamics in housing markets, including public policies affecting market conditions. In particular, residential mobility is greater in countries with more flexible housing supply, lower transaction costs, fewer rent controls, and less binding credit limits.

**Recent developments in the housing market risks reinforcing pre-existing inequalities**

**Falling housing prices have led to economic and social challenges that disproportionately affect poorer and younger households.** Real house prices and rents have risen faster than

inflation (Figure 9 3) and incomes (Figure 9 8) in recent decades, and while falling real interest rates have reduced mortgage

repayment costs. This has only partially mitigated the impact of rising housing prices. Therefore, the average share of housing related expenses in total household expenses has increased throughout the OECD during this period (Figure 9-4).

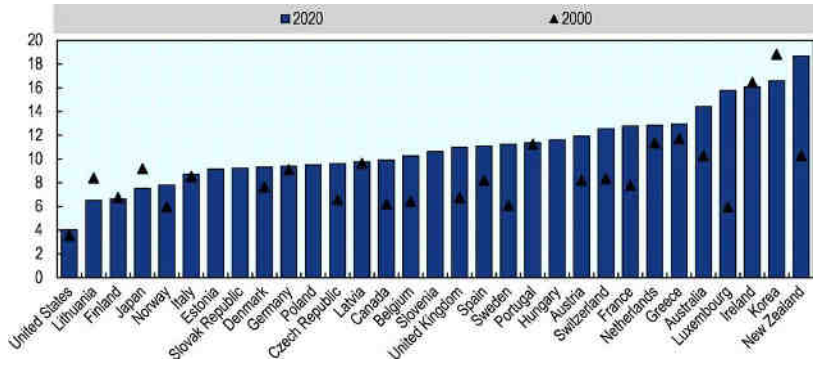
Rising housing costs make it more difficult for this population to afford housing maintenance or relocation. Better-quality housing Empirically, poor-quality housing has been associated with poor access to health care, education, digital infrastructure, and labor market opportunities, all of which have long-term effects on income and will put low-income families at a socio-economic pressure.

**Rising housing prices contribute to the widening economic gap between households with assets and those without**. Rising home prices represent a great opportunity for wealth accumulation, as property owners benefit from significant investment returns in the main household asset category. In addition to direct wealth effects, rising house prices also increase homeowners' access to credit, as property may act as collateral, which improves loan terms as property values increase. Trends in home ownership across the OECD show that these benefits accrue disproportionately to older and higher-income households, who are more likely to own their residence.

At the same time, rising property values create a growing barrier to home ownership, leading to higher initial purchase costs and higher mortgage burden for new market entrants. For example, the number of years of disposable income equivalent to the price of a 100-square-meter house has increased almost everywhere in the OECD, doubling in some countries between 2000 and 2020 (Figure 9-8).

House price inflation, increase in rental price, also reduces the disposable income of renter households in the private market, which reduces their economic well-being and makes it more difficult to save for home ownership. Households that do not currently own a home (which, as noted above, are likely to be younger and poorer households) will therefore find it increasingly difficult to get on the property ladder and enjoy the economic benefits of home ownership. In addition to these effects on income and intergenerational equity, housing price inflation may be associated with further limiting home ownership to those who have received wealth transfers.

**Figure 9-8 Number of years in which the average accumulated household disposable income is equal to the average price of a 100 square meter house, 2000 and 2020**




**Note:** Housing with a fixed size (100 square meters) has been chosen for ease of comparison between countries. Data for the year 2000 are missing from Estonia, Hungary, Poland and the Slovak Republic.

**House price inflation can also contribute to spatial segregation, with important implications for household welfare, access to public services, and social mobility.** House price growth and related housing cost increases vary significantly across regions. With increasing regional disparities in property values that limit the ability of low-income people to live close to work, which can lead to long commutes and negatively impact their well-being. Rising housing costs may affect households' ability to move to areas that offer better job and educational opportunities or access to higher-quality public services, thereby reinforcing existing economic inequalities. In addition, strong geographic differences in housing price inflation raise important concerns about the unequal concentration of capital gains on real estate. Households in high-demand areas, which may have relatively better condition at first.

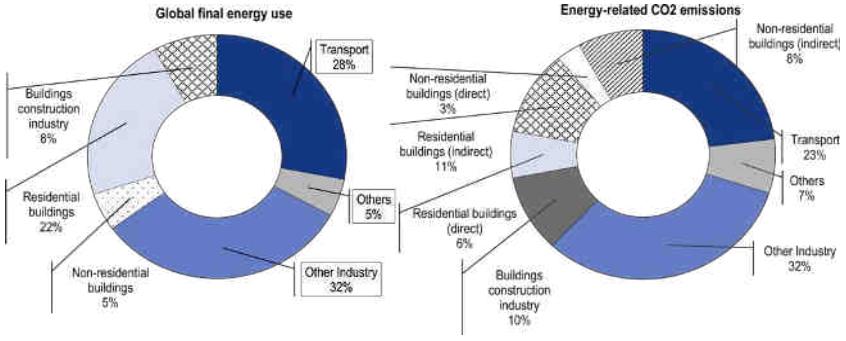
**The housing sector has a significant impact on the environment.**

**The housing sector has a significant carbon footprint.** In general, the buildings and construction sector accounted for 35% of final energy consumption and 38% of CO2 emissions related to energy and processes in 2019. 28% of all global energy-related emissions come from building operations alone. The residential sector accounted for about 22% of global final energy consumption and 17% of total energy-related CO2 emissions in 2019 (Figure 1.9). The majority of energy use in the residential sector comes from heating, with local temperature and house size being the main drivers of energy use. (Global Alliance for Buildings and Construction, International Energy Agency and United Nations Environment Programme, 2019) .Construction is another major driver of emission, accounting for 8% of total energy consumption and 10% of energy-related CO2 emissions

(Figure 8-9), which is mainly related to the production of construction materials such as cement, steel and glass(Global

Alliance for Buildings and Construction, International Energy Agency and United Nations Environment Programme, 2019). While energy intensity per square meter has improved in recent decades, total energy-related CO2 emissions from the building sector increased by 25% between 2000 and 2017 due to increased floor space globally (Global Alliance for Buildings and Construction, International Energy Agency and United Nations Environment Programme, 2019).

**Figure 8-9 Global share of buildings and construction final energy and greenhouse gas emissions, 2019**




**Note:** The construction industry is a (estimated) part of the entire industry that is dedicated to the manufacture of building materials. Such as steel, cement and glass. Indirect emission of emissions is caused by the production of commercial heat and electricity.

**Reducing carbon emissions in the residential sector, particularly by encouraging renovations with energy efficiency in existing housing stock, will be a key to achieving climate goals.** To comply with the climate goals of the Paris Agreement, the average energy consumption per square meter in buildings must be reduced by 30% in 2030.

Due to the low level of annual construction compared to the stock of existing buildings in OECD countries (for example,

annual construction as a share of existing buildings in the European Union reaches 1%), energy efficient renovations will be the key to reducing carbon emissions from existing building stock.

To achieve higher levels of insulation and promote energy savings, the United Nations' International Environment and Energy Agency predicts that the annual rate of energy renovation of existing buildings should increase from 1 to 2 percent to more than 2 to 3 percent by 2025. with the Paris Agreement (International Energy and Environment Agency of the United Nations, 2017). To reduce greenhouse gases emissions in the construction phase, efforts should be focused on material efficiency, construction practices to increase the lifespan of buildings, and recycling of materials.

**Housing is also a significant source of fines (PM2. 5).** PM2. 5 is air pollution which is the biggest threat to health, and exposure to these particles significantly increases the risk of respiratory and cardiovascular diseases. On average, the residential sector accounts for 37% of PM2. 5 emissions in the world. PM2. 5 emissions from the housing sector is particularly high in countries where reliance on solid fuel, especially wood and coal, for home heating is still significant (for example, Central and Eastern European countries). Exposure to PM2. 5 concentrations are also positively correlated with the density of urban areas.

Over the past 30 years, the average exposure to PM2. 5 has decreased in most OECD countries due to optimized combustion processes (in industry and home heating), reduction of coal in the energy mix, and lower emissions from transport and agriculture. But it still remains above the 10 micrograms per cubic meter recommended by the World Health Organization.

**Housing has impacts on land use, biodiversity, water and transportation quality, which may be aggravated by urban expansion.** Urban sprawl is characterized by low-density, scattered and discontinuous or scattered urban development and is recognized as a common challenge in many OECD countries. Urban sprawl can have significant environmental consequences through a number of channels, such as loss of rural or natural lands, reduced biodiversity following fragmentation of natural habitats, and poor water quality due to increased runoff from impervious surfaces. (e.g. roads). It has also been shown that wider urban developments increase car dependency, leading to more greenhouse gas emissions and poorer air quality. However, it is important to note that it can have positive social and economic benefits related to the expansion of cities. These developments may respond to the preferences of certain households for neighborhoods with lower levels of noise, congestion, air pollution and other factors. They may also contribute to the economic revitalization of some rural areas. With the increase in the size of the urban peripheries, they get a better connection with the key economic centers. While these benefits should not be overlooked when evaluating the desirability of housing developments in future. It is important to ensure that residential construction is done in a way that limits unnecessary urban sprawl and its adverse environmental consequences.

**Long-term structural changes are likely to have profound effects on the housing market in the future.**

**There are signs that the long period of low inflation and low interest rates may be coming to an end, which will have consequences for the housing market.** Countries may begin to normalize monetary policies due to the recent increases in

inflation, and this increases the possibility that countries will exit the period of very low interest rates and inflation. In the short

term, this risks increasing the debt service burden, although many households are likely to have accumulated significant savings during 2020-2020 and the high share of mortgages with fixed interest rates in many markets, they will be protected from interest rate increases.

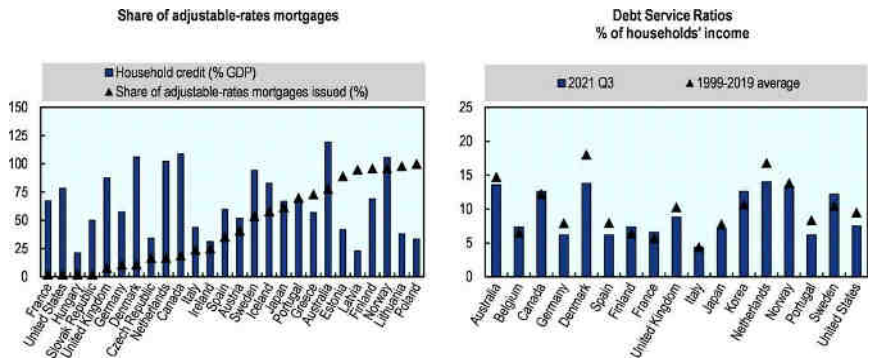
Lower-income borrowers, who may have lower financial reserves and higher debt service-to-income ratios, will be more vulnerable to the cost of living and borrowing. Higher borrowing costs are also likely to affect housing prices. They may lead to stabilization of housing prices and even downward adjustment which can improve housing affordability. However, a significant and unexpected drop in housing prices can have a significant negative impact on some households and broader consequences for the stability of the financial system.

Housing prices, along with household debt, rose steadily throughout the pandemic, even in countries where debt was already high. The sharp increase in housing prices in many countries was partly due to higher demand due to exceptional monetary conditions, increased household savings and unprecedented financial support, as well as limited supply due to mobility restrictions and logistical bottle necks. Mortgage rates are rising in many OECD countries as monetary policy begins to normalize and increases discharging of debt concerns. Currently, vulnerabilities appear to be contained due to relatively strong household balance sheets and limited use of adjustable-rate mortgages. However, fragile borrowers may be at risk in economies dominated by adjustable-rate mortgages. Debt-to-service ratios are high and monetary policy is likely to tighten sharply. Countries should monitor the situation closely to identify risks and consider any appropriate policy adjustments.

Low debt service ratios, high household savings, and the prevalence of fixed-rate mortgages may reduce vulnerability to

changes in the monetary landscape. Average debt service ratios are near or below long-term norms and significantly lower than what would be considered as a stressed debt service ratio. Average household savings also increased significantly during the pandemic, partly due to restrictions on consumption options and income supportive measures. Many households have fixed-rate mortgages, which dominate the largest mortgage markets and are associated with a lower probability of mortgage dishonor when interest rates rise. These factors may solve some of the discharging of debt concerns caused by strict monetary policies.

**Figure 10 9 Fixed rate mortgages and moderate debt service ratio limit housing market risks**




**Note:** The household credit level is measured in the third quarter of 2021. And the average Adjustable Rate Mortgages(ARM) share at the time of issuance in 2019 and 2020 is used to show the importance of each mortgage type in each country.

However, these total criterions hide important heterogeneity within and between countries. Many low-income households were unable to save during the pandemic, in part because of higher food and energy costs and job losses and some borrowers who already faced high debt ratios came under additional pressure

from the repeal of pandemic and higher income supportive measures. Additionally, adjustable rate mortgages are

common in some mortgage markets that raises more concerns in countries where rising inflationary pressures make interest rates more likely to rise sharply.

Given the uncertainty about future levels of inflation and monetary and fiscal policy responses, close monitoring of the situation is critical. Monetary and financial policy is different in different countries and depends on country-specific factors such as inflation, wage growth and financial environment. In this uncertain situation, countries may need to react quickly to ensure the stability of the housing market and prevent a sharp increase in the cost of living. In parallel, countries may consider a range of medium-term policies to reduce housing pressures, including investment in social housing and reforms in property taxes, lease regulations and land use policies.

**Housing supply should also adapt to structural changes in housing demand.** Buildings have a long lifespan, which increases the difficulty of adapting to structural changes in housing markets. In OECD countries, nearly a fifth of residential buildings were built before 1945, while about half were built before 1980.

At the same time, digitalization and technological changes, population aging, climate changes and most recently the COVID-19 pandemic are changing the needs and preferences of households and private businesses. These trends are expected to have significant, though in some cases uncertain, effects on the housing market.

**The Covid-19 pandemic has caused changes in working practices and housing preferences with potentially longer-term effects on the housing market.** The widespread acceptance of telecommuting during the COVID-19 crisis may

have lasting effects on housing demand if remote working remains the norm in the long term. In particular, it may

contribute to increased demand for housing in suburban and rural areas, a shift from apartments to single-family homes, and reduced demand for office and retail spaces in major cities.

Ultimately, this can have the effect of reducing some housing market pressures in major city centers in the future, while demand pressures may increase elsewhere. Although it is still too early to say what its long-term effects will be on housing affordability.

**Digital home sharing platforms will likely continue to shape the housing market in the future, bringing both opportunities and risks.** Home-sharing platforms like Airbnb have grown significantly over the past decade with a strong presence in major cities and tourist destinations. As a result, many long-term rental units have been converted to short-term rental housing while housing markets have increasingly opened up to international demand. In areas where housing supply is less responsive, this change has fueled housing price inflation, with potentially negative stock consequences, especially for local residents. On the other hand, digital real estate platforms used to search for long-term residences may increase supply and demand matching, especially when online content provides for more effective filtering and online visits reduce costly in-person visits.

**E-commerce is affecting commercial real estate demand, although its effects on residential housing affordability are still unclear.** Online retail business with visible shifts from retail to online channels has grown significantly.

Research shows that the rise of e-commerce is accompanied by a decrease in demand for commercial real estate. Along with a stronger polarization in demand between properties in prime locations and other less attractive assets. Quarantine measures

during the COVID-19 crisis have accelerated this trend and the share of e-commerce in total sales has reached its highest level in

2020- that is 16% in the US, 31% in the UK and 25% in China. Online shopping is likely to continue in the future as convenience has been reported as one of the main drivers of its acceptance.

However, e-commerce trends also show that online and physical stores are considered as complementary rather than complete replacements, which is why physical stores are likely to continue to their existence.

The rise of e-commerce is also accompanied by increased demand for warehouses that are increasingly located closer to customers and within metropolitan areas to meet shorter delivery time promises. In addition to changes in commercial real estate demand, the impact of these trends on residential housing affordability also depends on the flexibility of converting commercial real estate to residential real estate.

**Rapid population aging worldwide will continue to change household structures and preferences.** Population aging has been accompanied by a decrease in the number of households and a larger number of households. Today, more and more people live alone or in a family of two, which is also due to a significant decrease in multigenerational families. These changes in the composition of households have put pressure on the housing market due to the slow response of the housing supply. Existing housing stock must also be adapted to the needs of older tenants, for example, to increase accessibility, and retrofitting existing properties is costly and may contribute to higher housing prices and housing costs. Older households also need to live in close proximity to a wide range of essential services, which can increase housing demand in urban and suburban areas and require adaptation of urban infrastructure.

**Climate change will increasingly affect housing demand while housing supply must adapt to changing climate conditions.** Climate changes alter the desirability of different locations, so that some regions will benefit from milder weather conditions, while others will be increasingly exposed to the risk of natural disasters and capital loss due to sea level rise, desertification and extreme temperatures. These changes in demand can change housing price developments between countries and within countries", although the short-term and medium-term effects on the housing market strongly depend on the individual beliefs and risk assessment of buyers and sellers.

Home insurance may also be more expensive in areas subject to more extreme weather conditions and weather hazards, which in turn can lead to an increase in overall housing costs. At the same time, construction, including the use of materials and property retrofitting, must be adapted to the changing climate conditions (World Union of Buildings and Constructions, international Energy Agency and United Nations Environment Programme, 2019).

# Chapter Ten

## The impact of tax on the housing economy

The introduction of housing plays an important role both as a shelter and as an asset in the household economy, and in the territory of macroeconomics, it has determinant effects on key variables such as economic growth, inflation, employment and income distribution. At the same time, the housing sector has an effect on other sectors due to extensive past and present connections and the centrality of business cycles and also, because it is located in the macroeconomic environment, it is also affected by the developments of other sectors and the macroeconomic environment. Separation of housing demand into consumer demand, asset demand and speculative demand is the most important scientific contribution of economists to the organization and control of the housing economy, especially in developing countries and it has greatly contributed to the correct understanding of the performance of this sector and accordingly the policy making of the housing sector. In the consumption demand of housing, only the provision of household shelter is mentioned, while from the point of view of property and speculation, investment efficiency is the basis for decision making. In addition, from the perspective of speculative demand, the behavior of investors who entered the housing sector

and earn significant income by buying and selling in a short period of time is important, and neglecting it, will cause irreparable damages to the housing sector and the national economy. Currently, there is a consensus regarding the prevalence of speculation in the housing market, and specialists and experts of the housing market believe that the main reason for the occurrence of housing market shocks, which have destructive effects on the national economy, is strongly influenced by the behavior of speculation in the housing market. Periodic fluctuations in housing prices caused by speculative activities cause social losses to households and cause a reduction or delay in the effective demand for housing and also leads to a decrease in the growth of the added value of the housing sector and considering the importance of the housing sector in the national economy, it can lead to a decrease in economic growth. Part of the most important tools for managing the housing market and controlling speculative activities used by governments is embedded in the tax system of the housing sector, and this issue can be clearly seen in the experiences of developed countries. In addition, the distribution functions of the housing tax system are also of particular importance. In the economic literature of the public sector, one of the goals of the tax system is to improve the income distribution situation. Studies show that the emergence of business cycles and the fluctuation of housing prices leave the effects of a wide distribution of income, and the increase in housing prices provides occasionally revenue to housing owners. Its amount depends on the value of the housing and the degree of speculative housing in this market and has no proportion with the activities of the people. Therefore, the shock of the housing market brings benefits to the owners of the housing and the tenants suffer from it. In addition, a certain group of owner households benefit from it. In general, the effect of the housing market shock on the income distribution situation is so wide that in most cases no policy will be able to

neutralize it. In order to avoid the widespread and harmful effects of housing market shocks, policymakers prioritize the use of

additional tax tools, especially the capital gains tax, and prevent the formation of the shock or reduce its intensity.

The performance of tax revenue components related to real estate in Iran and comparison with other countries shows the existence of a vast tax capacity that is not used in Iran. Special emphasis is placed on the collection of taxes that do not affect the provision of housing for low-income groups and special classes. The share of tax based on property and real estate from the total tax revenues in France is 16%, America 14%, Canada and Switzerland 12%, Spain 10%, Turkey, Korea and Malaysia 3%, and this amount in Iran was 1.7%. In Iran, the share of the value added of housing in the period of production and exploitation of the gross domestic product is more than 10 times the share of the housing tax to the total tax revenues, Gholizadeh (2008). These indicators show that unnecessary exemptions and non-use of existing potential capacities are the main reasons for not using the tax capacities of the housing sector which has caused unfavorable conditions in the housing market.

## Housing tax system in the world

Collection of housing taxes by the governments is done with the purpose of earning income, minimizing the disturbance in the price mechanism and allocation of resources, and achieving sectorial goals, especially controlling speculation and the extreme fluctuation of the housing market. In the meantime, land and housing as one of the most important factors of production, along with labor and capital, have always been one of the important tax bases of governments, the relative importance of which is different in countries. The comprehensive package of monetary and financial policies will help the housing market to guide the housing economy in the path of long-term stable growth while eliminating market failures and each policy tools are effective in achieving a specific goal. In this context, the

growth and development of the housing market requires the development of the housing financing system.

Providing housing for low-income groups and special strata requires subsidy policies and providing grounds for the development of the financing system at the level of horizontal development. The examination of the housing tax system in different countries of the world shows that in order to take advantage of each of the functions of the tax system of the housing sector in the field of earning income, controlling speculation and some important objectives of the housing sector, appropriate tax tools have been used in accordance with that work. The most important of which are the capital gains tax, the land value tax, the tax on empty residential units, and the tax on the purchase of expensive properties. Therefore, the failure to apply some political tools has caused inadequacies in the housing sector and the importance of the housing sector causes losses to the national economy.

## Capital Gains Tax (CGT)

In the economic literature, it is believed that the periodic fluctuations and shocks of the housing sector are generally under the influence of demand shocks and speculation in this market, and the most important tool that governments have for managing and controlling is the tax system of the housing sector. One of the most effective tax tools that can prevent speculative activities and strong inflow and outflow of wanderer capitals in this sector and put the investment process in this sector on a stable path and away from cyclical fluctuations is capital gains tax which the history of its use in other countries is even greater than the value added tax. Currently, many countries in the world, including England, Ireland, Spain, Germany, Canada, France, the United States of America, South Korea, Argentina, Australia, Brazil, Chile, China, Denmark, Hong Kong, and India, have implemented the tax law on the increase in the value of land and housing. They implement that the

summary of information related to the housing tax system in these countries is included in the attached table which a summary of the

information related to the housing tax system in these countries is included in the attached table.

There are differences in the methods of collecting this tax in different countries, and the general principles governing this type of tax are based on the profit from the purchase and sale of real estate, the shelter exemption and the dominant consumer motivation to buy housing is from paying taxes, the distinction between speculative motivations and others in determining the rate and base of tax on capital gains in a certain period of time.

In most countries, to increase the cost of speculative transactions, they impose different rates on transfers and prevent the formation of these types of transactions, because in order to secure the interests of a certain few, they inflict extensive losses on social interests and the national economy. Since the degree of dominance of speculative demand for housing has an inverse relationship with time, the base of this stepped tax is inverse and by increasing the time interval between buying and selling, a smaller part of the earned profit is subject to tax, which is called longitudinal tax on housing transactions. For example, if the purchased property is sold in the first year after purchase, 100% of the profit and in the second year 80% of the earned profit will be taxable. This ratio will decrease to 50% of the earned profit in the third to fifth year, and sales in the following years will reduce the tax base. Imposing a longitudinal tax on transactions despite the fact that it somewhat increases the costs of entering speculative demands into the land and housing market, it has no effect on the cost of consumer demand and productive capital, because people who buy housing for their own consumer demand, use the housing unit for at least 5 years. As a result, this tax will have deflationary effects by reducing part of the destructive capital demand and along with its other advantages, it stabilizes the land and housing market. A necessary condition is the

inclusion of capital gains tax on the sale of land and housing. Therefore, people's first property, which is their consumer demand,

is exempt from capital gains tax. In addition, in the framework of capital gains tax, most producers who produce and supply residential units in a certain period of time are also exempt from paying this tax. In terms of methodology, the producer does not buy and sell housing to be taxed rather, he buys the land needed to build the building and by constructing the building, he sells the built residential or commercial unit. In this case, stamp duty tax (a type of transfer tax whose amount is partial) will only be paid to buyers under certain conditions. or that the buyer will be subject to value added tax, for example, those who convert the purchased land or house into newly built residential units and offer these units to the market within a certain time (for example, 3 years after obtaining the license) they will be exempt from paying this tax. Exemption of producers to pay this tax for up to 3 years causes the construction period to increase due to the builder's motivation to earn profit. This will not be prolonged in the future and the speed of construction will increase. This issue will create a suitable platform for new technologies to enter the housing sector. Adopting two exemptions for providing shelter from paying taxes and exempting housing manufacturers is for the purpose that this tax does not affect the cost of consumer demand and productive capital and only targets speculative demand.

## Land Value Tax (LVT)

One of the tax tools for the optimal allocation of land resources and urban housing is the land value tax. The ever-increasing demand for housing due to the increase in the urban population on the one hand and the limited urban land resources and the impossibility of land production makes the optimal use of existing urban land resources inevitable. The use of tax tools can guide land and urban housing owners towards the optimal allocation of land and housing resources.

Tax on land and empty residential units are considered as a complement to the tax package in the optimal resource allocation section. Because the management of urban land resources and their optimal allocation to create urban infrastructure is the responsibility of the municipalities, the role of this part of the proposed tax package is mostly the responsibility of the municipalities. In public sector economics texts and urban land policies, it is emphasized that the development of urban infrastructure and services has increased the value of land and urban housing, and the expenses of municipalities should be collected from the owners. In other cases, tax on barren lands will not be excluded from this rule. Of course, with the difference that these lands, in addition to benefiting from urban development plans, cause losses to citizens and municipalities, which makes the inclusion of taxes more necessary. The land value tax leads to an increase in construction by directing the owners to the optimal allocation of their resources in the field of urban residential lands. In a situation where the land market is accompanied by an increase in price and inflationary expectations due to this increase in price, this type of tax can lead to a decrease in the price of land in the market ؛because with the increase in land maintenance costs, owners who are not able to use their land optimally, sell their land and as a result, the price of land can decrease by increasing the supply of land in the market.

The cost of housing production will be reduced due to the elimination of the cost of tax on the sale of density and building permits. Of course, real estate tax in Iran fulfills the aforementioned role and task, which local authorities use it as a tool to provide financial resources.

## Tax on empty residential units

Another sovereignty tool for the optimal allocation of available housing resources in the conditions of supply and demand inequality is taxing vacant houses. Imposing a suitable tax rate has led to an increase in the cost of maintaining empty houses for the owners and it acts as a complementary tool and lever in addition to housing supply to reduce housing prices and create balance in the market. The natural rate of vacant residential units, like the natural rate of unemployment, is considered as an intrinsic part of the housing market balance. But it should be noted that the normal rate of vacant residential units is established only in the conditions of market equilibrium, and in the conditions of imbalances, like Iran's housing market, this rate exceeds its normal limit. It should be emphasized that in general, the difference between the rates of existing empty residential units and its normal rate is affected by the conditions of the housing market. The volatile housing economy and the growing demand for housing in Iran, especially in megacities and big cities, is the main reason for the rate of vacant residential units exceeding its normal rate. Therefore, the basic solution is to reduce vacant residential units and control the fluctuations of the housing market. Therefore, it can be expected that the imposition of capital gains tax will automatically reduce the number of vacant residential units. In the medium and short term, the purpose of imposing this tax is to increase the supply of housing in the conditions of inequality of supply and demand in the market and to make optimal use of urban housing resources in order to control the market.

According to the mentioned contents, the tax on vacant residential units is a tax that is periodically collected from properties that have been left uninhabited for a certain period of the year. This tax is collected until the property in question is known to be empty, and if

the property in question is occupied, it is not subject to payment of this tax.

## Stamp Duty Land Tax (SDLT)

Another goal of tax systems in the field of land and urban housing is to earn money in order to provide financial resources for housing credits in the government budget. In fact, in an efficient tax system, the expenses needed to pay the credits and seasonal housing subsidies are obtained from the income sources of the tax system. And in addition, the redistribution of the wealth that has been given to limited owners in the process of ownership asset is the responsibility of the tax system. This, on the other hand, leads to a reduction in the tax burden from other productive activities of the economy.

In fact, this tax is a kind of stamp duty that is collected from the recipient of the document in various document transactions according to the value of the document. Expensive residential units can also be a source of taxation from the point of view of value added tax. Due to the fact that expensive residential units are not purchased only for the purpose of shelter and their property value plays a dominant role in its purchase, therefore it can be a source of taxation. Because this tax is collected from properties with a price higher than the average price, the number of residential units subject to tax is limited, but the resulting tax revenues are significant. In order to avoid double taxation, newly built expensive residential units will only be subject to this type of tax. In addition to generating revenue for the national government, this tax has price control effects in the land and urban housing markets. In fact, this tax is a deterrent factor for people who buy expensive properties with the motivation of property. In addition to reducing the effects of expensive real estate transactions on the land and housing market, this policy will have a redistribution effect by spending its income to provide housing for low-income deciles, as well as a more appropriate approach to funding the national government and local authorities.

## Housing tax system in Iran

The housing tax system plays a key role in the economic and social system of a country due to its triple functions of revenue generation, sectoral goals, especially control of speculation and income distribution goals. But in Iran, the relevant indicators indicate the not very favorable performance of the country's tax system in relation to each of the mentioned functions. Currently, according to the direct taxes law, three types of taxes are collected in the housing sector as follows:

### Tax on income from real estate rent

Tax on income from renting real estate, which is indicated in Article 52 -57 of the Law on Direct Taxes. According to the aforementioned articles, the taxable income of real estate that is leased out, all the rental property, both cash and non-cash, after deducting of 25% for expenses and depreciation and the owner's obligations regarding the rental item, will be subject to the rates of Article (131) of the aforementioned law. In addition, according to the mentioned articles, in order to encourage the owners of residential units to rent properties, in addition to the owners of residential complexes with more than three rental units that are built according to the consumption pattern, they are exempted from paying rent tax. Individuals' income from renting residential units up to 150 square meters in Tehran and 200 square meters of useful infrastructure in other cities are exempt from real estate rental income tax.

**- Property transfer tax**

Property transfer tax, which is governed by articles (59-80) of the Direct Taxes Law, with the exception of article (77). According to the mentioned articles, the definitive transfer of real estate is subject to a tax of 5% based on the transaction value.

**- Developer taxes**

Developer tax is mentioned in Article (77) of the mentioned law. According to the mentioned article, the first definitive transfer of newly constructed buildings, whether residential or otherwise, that has not passed more than 2 years from the date of issuance of their completion certificate. In addition to the definitive transfer tax of article (59) of this law, they will be subject to a lump sum tax at the rate of 10% based on the transaction value of the transferable nobles as developer tax.

According to what was mentioned, there is no capital gains tax in the housing tax system in Iran, and instead, a transfer tax is imposed.

The tax on barren lands and the tax on empty residential units were canceled in the amendment of the direct taxes law and the reason for that is the increase in the efficiency of the tax system. The low effective tax rate and low income from this type of tax led to its cancellation from the direct taxes law. Collecting this tax with the cooperation of local authorities can be effective and efficient.

There is no tax on expensive real estate in Iran's direct taxes law. Perhaps the most important reason is the problems of identifying expensive residential units and the effects of taxation on the increase in housing prices. However, according to the contents that have been discussed, operational methods have been provided to solve them. In general, in any type of review and reform in the country's tax system, especially in cases related to the housing sector, the followings should be considered:

> Based on the integrative goals of the 20-year vision development program and the goals and principles of the tax system.

The tax system of the housing sector is affected by the conditions and commercial periods governing the housing economy.

The tax capacities of the housing sector should be used to the maximum.

Tax laws do not provide economic policymakers with the guidance platforms for the housing sector and do not have the necessary flexibility. However, in some developed countries, based on housing market conditions and information received by policymakers, tax laws and regulations of the housing sector are being amended. The traditional nature of the tax system in the housing sector and the lack of sufficient information lead to decisions based on incorrect criteria.

The threshold level of exemption or progressive rates in the taxes of the housing sector is determined based on value criterias in most countries, while in Iran physical criteria are used (for example, based on the square meter of housing, which is highly criticized due to the extreme heterogeneity in the housing market).

Regional prices are used instead of market prices, which is ineffective and damages the rights of taxpayers.

The abundance of informal transactions makes it difficult to cover the scope and effectiveness of tax policies in the housing sector.

The type and motives of demand for housing, consumption, property and speculation and the purpose of conducting transactions have no effect on being subject to taxation or the amount of tax paid.

## Transformation plan of the tax system and its approaches to the housing sector

In recent years, effective measures have been taken to reform the tax system of the housing sector. And this very valuable thought that the tax system of the housing sector, if revised and corrected, can provide the basis for increasing tax revenues, and by using appropriate tax tools for other functions of the tax system, effective steps can be taken to achieve the goals of providing housing and establishing the stability of the housing market. It has been proposed in the country's decision-making system. Since 2007, the transformation of the country's tax system and increasing its efficiency in each of its three tasks was considered as one of the seven axes of the economic transformation plan. In this regard, in the draft of the reform bill of the country's tax system, which was finalized in the Ministry of Economic Affairs and Finance, an attempt was made to create suitable legal bases to reduce speculative housing transactions and also to encourage economic operators to develop rental properties.

According to Article (10) of this draft, the definitive transfer of real estate, except for the first definitive transfer of newly constructed real estate buildings, which is transferred in the implementation of Articles (65), (68) and (70) of the Direct Taxes Law and definitive transfer of properties located in villages and agricultural lands in excess of 2 units per year by natural and legal persons regarding properties that are purchased after the implementation of this law, for each additional unit subject to an additional tax equal to one times the rate of Article (59) of this law for each transaction and up to a maximum rate of 50%. In addition, in order to improve the situation of the housing rental market, measures were also taken, among which we can mention the proposal to amend Note (11) of Article (53) of the current Direct Taxes Law, according to which the

ceiling of the total useful infrastructure of rental residential units subject to tax exemption on real estate rental income has been

removed and tax exemption will be granted to rental residential units whose useful infrastructure is up to 75 square meters in big cities and up to 100 square meters in other places, regardless of their number. The purpose of these changes is to curb speculative activities in the housing sector and to increase the motivation of residential unit owners to build residential units in accordance with the consumption and rental patterns of these properties, as well as to increase the supply of rental residential units and, as a result, to improve the housing rental market.

In the draft bill on the transformation of the tax system, the exemption threshold level for rented residential units was revised and the threshold level of enjoying the real estate tax exemption in Tehran and other cities decreased, which is due to the ineffectiveness of the applied exemption and the failure to achieve the desired goals. Also, there have been many debates regarding the tax on empty residential units and the final result was no tax on empty residential units.

## Evaluation of the tax system of the housing sector in the draft bill on the transformation of the country's tax system

The draft of the tax system transformation bill from various aspects such as paying more attention to the development of tax bases, changing the composition of tax revenues, paying attention to the necessity of dealing with speculation, facilitating the development of low-square-meter rental residential units in the country, paying attention to distribution goals and realization of some goals of the housing sector are superior to the law of direct taxes. However, this draft needs to be revised in the following ways:

**- Inability to prevent speculation in the housing sector**

Although the approach of the draft tax system transformation bill to the issue of speculation is

considered as a kind of theoretical progress in the country's tax system. However, the proposed articles do not limit and control housing speculation, but rather change the form and manner of doing it. Basically, due to the fact that in the draft of the proposed bill, the number of transactions made by individuals is considered as the basis for diagnosing real estate speculation and a tax on frequent transactions has been suggested. In this context, the following points are worth considering: this method is not the basis for diagnosing real estate speculation in any country.

If the purpose of making a transaction in the buying and selling of housing is recognized as a speculative activity, the obtained benefit should be considered as the tax base and not the number of transactions, because basically, the number of transactions will not be a suitable measure to measure the benefit of capital and real estate speculation.

It should be stated that housing speculation at any level, both limited and widespread, is despicable, disruptive and harmful. Therefore, the basis of this argument that doing one or two transactions for the purpose of speculation was unimpeded and should not be taxed, is not clear. From this point of view, the proposed bill implicitly approves and validates doing something disruptive and harmful at a limited level.

The criterion chosen to define speculative housing is taxed in such a way that it is not fruitful in practice because it is sufficient to create a housing shock through the creation of speculative demand even at a limited level. Therefore, if high-income households or potential speculators in the housing market are allowed to speculate

in this market and use the exemption of 2 units from the tax, the possibility of controlling the

speculation in the housing market through this type of tax will be very small.

The chosen threshold level for tax inclusion (2 units per year) is not defensible in terms of normative and economic criterias. because in order to justify the tax exemption due to the extreme heterogeneity of the housing market, a normative criterion must be chosen for it. For example, the exemption of transactions up to the level of a few Rials will be exempted from paying the tax of Article 60, because choosing the threshold level of 2 residential units puts the tax base exemption in a very wide range. For example, the value of two units in a small city can be around 20 million Tomans, and the value of two units in the metropolis of Tehran can exceed the level of 2 billion Tomans. Is the selection of this threshold level defensible with the tax equity criteria and economic criteria?

The proposed article will be practically ineffective and will only introduce a type of rationing for speculative housing transactions, and the tax exemption for this type of transaction will have various economic and social consequences. In some cases, this law recognizes the motive of the transaction as housing speculation and subject to tax, which is contrary to reality. For example, if the lessor buys more than two residential units and provides them to the tenant according to the contract, he is subject to this tax. That the transaction was not for commercial purposes.

Exemption from the said tax for rural properties that are located in the vicinity of cities can increase the risks of spreading housing speculation in these areas, while when

a transaction is made with the motivation of the speculation and the recognition of the relevant

organization confirms this, the transaction in any place where it takes place should be taxed.

The issue of the regional price calendar is a method to consider housing heterogeneity in the calculation of the tax base, which itself creates many problems.

For this reason, it is suggested that this article replaces Article (60). The sellers of residential units are equal to the difference in the value of the sale and purchase of housing and real estate and the right to assign the place is subject to capital gains tax. In the period of less than one year, 100%, between one to two years, 80%, between two to five years, 50%, from six to 10 years,

30%, and more than 10 years, 10% of the difference in the value of sale and purchase will be subject to capital gains tax. The tax rate is determined based on the amount of capital gain. If the amount of capital gain is less than 15 times the annual income exempt from salary tax, it will be applied at the rate of 25% and more than that is applied at the rate of 35%.

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**Note 1:** The country's document registration organization is obliged to exchange or modify real estate documents at the current expert price one year after the approval of this law. During this period, residential properties that were purchased before the implementation of this law are subject to tax, based on the old article (60), and from the end of the first year, all transactions are subject to tax, based on this article.

**Note 2:** The purchase of a residential unit of real estate and the right to assign a place with a higher value than the previous one, moving due to illness, obtaining

opportunities or job assignments, retirement, or being 65 years old and older, provided that two years have passed

since the issuance of the real estate document, it is subject to exemption.

**Note 3:** Each person can use the exemptions of this article only once in his lifetime.

**Note 4:** Exemption from Note 2 does not include expensive residential units. Expensive residential units refer to units that have a value of more than 50%, equal to the minimum income exempt from salary tax, the subject of Article (84) of the Direct Taxes Law. In the cases of Note 2, only 50% of the capital gain obtained from the sale of the primary residential unit is subject to exemption, and otherwise, the entire capital gain is subject to tax according to this article. Note 5 land transactions are tax-exempt if they are for the purpose of construction and the time interval between the purchase of land and the sale of the residential unit built on it is less than 3 years, otherwise it will be subject to this tax.

The main advantages of capital gains tax are taxation based on the individual's motivation to make a transaction, encouraging motivation, providing shelter or consumer motivation, housing, paying attention to the realization of economic goals and the goals of the housing sector, helping to establish efficiency in the labor market, providing one of the basic goals of the government is to control price shocks and housing rent and improve the income distribution situation. The tax on frequent transactions does not consider any of the mentioned principles in tax collection and on the contrary, it creates many problems in the housing market.

**- Lack of attention to the housing of vulnerable groups**

As mentioned, tax on rental income is one of the conventional tools used in the countries of the world.

However, in order to help provide rental housing for low-income groups, in Note 11 of Article (53), tax exemption is given to rental residential units whose useful infrastructure is up to 75 square meters in metropolitan cities and up to 100 square meters in other places. It will be granted regardless of their number. Meanwhile, this note is due to the lack of attention to the heterogeneity of housing and the formulation of the threshold level of exemption based on physical criteria, as well as the failure to apply a single criterion at the country level (such as the exemption of annual income subject to salary tax in Article (84), which is used and can be criticized at the level of the entire country. For this reason, it is suggested to replace Note 11 of Article (53) with the following text:

**Note 11:** Low-cost rental housing units whose value is lower than the threshold level determined according to the following formula are exempt from paying rental income tax. Threshold level of tax exemption on rental income is 20 minimum annual tax-free income subject to Article (84).

**Note 12:** 30% tax exemption is given to taxpayers in case of 2-year contracts and 50% tax exemption for three-year contracts or more.

**Note: 13** Expensive residential units will not be subject to tax exemptions. It is worth mentioning that because in the mentioned proposal, the scope of exemption from rent tax is more limited, so the tax income from this tax heading will not be reduced.

**- Limiting the value added tax capacity**

One of the other considerations regarding the taxation of the housing sector is the capacity development and value

added tax base. According to Clause 8 of Article (12) of the Value Added Tax Law, housing and immovable

properties are exempt from this tax. While the principle of the ability to pay helps to achieve the goals of the housing sector and the development of tax capacities and the expansion of income sources of the housing sector dictates that expensive residential units should be taxed. Development of value added tax coverage and removal of unnecessary exemptions that disrupt the allocation of resources between the housing sector and other economic sectors is the goal of amending the tax law. Also, the tax exemption for the first transfer of new residential units listed in Article (59) of the Direct Taxes Law should be canceled only for expensive properties. It is suggested that the following text be replaced with paragraph "8" of Article (12) of the Value Added Tax Law.

Expensive immovable properties whose market value is more than 50 times the minimum annual income exempted from salary tax subject to Article (84) of the Direct Taxes Law will be subject to value added tax. Since the implementation of this law, municipal congestion charges will be canceled throughout the country.

**- Failure to pay attention to the existence of empty residential units**

The special conditions of Iran's housing market cause the price of vacant residential units to exceed its normal rate. The existence of empty residential units, especially in housing markets where the degree of demand for property and speculation is high, on one hand and the contribution that these units make to balance the market, on the other hand, makes policy makers pay attention to the imposition of taxes on residential units and empty

properties be diverted. It is believed that imposing a tax on vacant residential units can change people's behavior

and bring the rate of vacant residential units to its normal level. The tax on these units, which was removed in the material amendments of the direct taxes law, is not proposed in the draft amendment of the tax bill and the tax organization believes that the establishment and implementation of this type of tax is difficult and the effective tax rate is also very low.

The fact is that the existence of empty residential units is largely a result of the conditions in the housing market, not the reason for it. Therefore, to solve the problem, first of all, the fluctuations of the housing market must be solved. In this case, this tax can be effective because the lack of stabilization of the housing market creates benefits for keeping residential units empty and if the cost of paying the tax is lower than the benefits obtained, people will not change their behavior, so the tax is not able to significantly reduce the rate of vacant residential units. In general, imposing a tax on empty residential units after establishing relative stability through the implementation of capital gains tax with the cooperation of local authorities reduces the implementation problems of this tax and can be effective.

## Proposals regarding housing tax

Formulating a comprehensive package of monetary and financial policies in the housing sector, while eliminating cases of market failure, will guide the housing economy in the path of long-term stable growth, and each of the policy tools in the field of achieving a specific goal is effective and fruitful. The investigation of the housing tax system in different countries of the world shows that in order to take advantage of each of the functions of the tax system of

the housing sector in the field of earning income, controlling speculation and realizing some of the important goals of the housing

sector, improving the distributional goals of the appropriate tax instrument was used. It has been taken that the most important of them are capital gains tax, land value tax, tax on empty residential units and tax on the purchase of expensive properties.

The performance of tax revenue components related to real estate in Iran and comparison with other countries shows the existence of a vast tax capacity that is not used in Iran. Special emphasis is placed on the collection of taxes that do not affect the provision of housing for low-income groups and special classes. Studies and experience of countries have shown that tax policies, along with the performance of the housing market, are powerful tools for long-term stable growth and controlling fluctuations, and no other tool can play this role. According to the contents that have been discussed, the following items are suggested in order to achieve the basic goals of the government and the programs of the housing sector.

Helping to provide rental housing for low-income groups, in note 11 under article (53) of the draft amendment of the tax bill, it is proposed to reduce the threshold level of real estate tax exemption based on square meters, considering the extreme heterogeneity of housing, it will not be a good measure to achieve the desired goals. It is suggested that the threshold level of exemption be formulated based on the housing value criteria and that the tax exemption only includes cheap housing. Correlating the amount of tax exemption with the duration of two and three-year rental contracts, while providing the goals of helping low-income groups, provides a significant contribution to the goal of stabilizing the rental housing market.

The rate of vacant residential units being at the normal level of market fluctuation and the imbalance in the housing economy and its speculative demand are the main reasons for the rate of vacant residential units exceeding its normal level. The relationship

between rent and housing prices is inevitable, so the tax on vacant housing units can be effective while stabilizing the housing market.

However, the tax on empty residential units can be effective with the cooperation of local authorities and in case of implementation of capital gains tax.

The stabilization of the housing market and the control of periodic fluctuations of the experiences of developed and developing countries have proven the efficiency and effectiveness of capital gains tax. The recent experience of several years and the direction of the government's policies in the housing market indicate the approval of speculation in the housing market and its negative effects. In the adjoint article (60) in the draft amendment of the tax bill, a tax on frequent transactions has been proposed, and based on that, the definite transfer of real estate and the transfer of the right to assign a place in excess of 2 units per year are subject to tax which is theoretically not defensible and there is no experience in this field in order to stabilize the housing market and control its price fluctuations, capital gains tax is suggested.

According to the existing capacities in the executive system and the development of information technology, there are areas for the application of capital gains tax. This tax, while recognizing speculative housing transactions, unlike the transfer tax, encourages consumer demand and limits speculative demand, and creates stability and confidence in the housing market. The benefit of taxable capital has a negative relationship with the time interval between the purchase and sale of housing. Exemptions and the use of different rates ensure that there is stability in the market and that there is no problem for low-income groups and the provision of consumer demand.

Developing the country's tax capacities, taxing expensive housing units while increasing tax revenues can help to achieve the government's goals in this sector and provide uniform incentives in the tax system, and cause investment in the housing sector and other productive and service sectors and reduce the excessive support of the

tax system to encourage housing assets. Imposing tax on expensive real estate will develop tax capacities in the country and

it is not proposed in the draft amendment of the tax bill on expensive properties. This proposed tax can be levied on newly built residential and non-residential buildings, which can be included in the value added tax reform and expensive immovable property can be recognized as taxable. The aforementioned tax, while significantly increasing the government's tax revenues, the behavior of individuals to invest in immovable assets as well as other productive and service sectors is modified by the private sector and directed to the framework of a rational model based on social interests. Several proposals can be made to collect the tax on expensive properties, and the best one is to amend paragraph "8" of Article (12) of the Value Added Tax Law and include the value added tax on newly constructed expensive properties.

## Property taxes in Central and Eastern Europe and the Baltic States

Immovable property tax or real estate tax is less widely used in Central and Eastern European (CEE) and Baltic countries, but reforms in this area face serious challenges. The recent health and energy crises have put pressure on public finances in many countries, and long-term challenges such as the rapid aging of the population require them to reform their financial policies. As recommended in several recent OECD economic surveys for the CEE and Baltic countries, strengthening real estate taxation can help maintain fiscal sustainability.

Immovable property tax revenue is low in most CEE countries. While Poland collects higher property tax revenues (slightly above 1% of GDP) than the OECD average, other CEE countries receive significantly less.

Most countries in the region have not been able to benefit from the sharp rise in asset values in the past ten years, and instead rely heavily

on labor taxes, which are more harmful to growth, or consumption taxes, which tend to be regressive. Some other OECD

countries also receive little income from property taxes, but they either impose a wealth tax on immovable property (like Switzerland), or they tax the rent of the principal residence as part of the income tax.

Taxes on immovable property can help raise revenue with less loss to economic growth than alternative taxes. For example, in the Czech Republic or Estonia, raising immovable property taxes to reach the OECD average and the simultaneous reduction of labor tax can help to increase the potential GDP per capita growth by 0.7%.

Immovable property taxes can help reduce housing boom and recession cycles and can be designed to reduce inequality. They can also help local governments and prevent urban sprawl. The risk of tax competition eroding tax revenues is low because property taxes are invested in the price of real estate:

The lower the tax, the higher the property price, and vice versa, largely neutralizing displacement effects, as in the United States.

Local governments can be the main beneficiaries of more vibrant tax revenues and strengthen their capacity to spend on local infrastructure. Higher revenues from private sources also reduce the pressure on central governments or EU programs to finance local investments. Local governments should take advantage of the new tax room they have been given. In Hungary, currently a quarter of municipalities only collect property tax. In Latvia, some municipalities set very low tax rates to attract high income earners.

However, design drawbacks and data limitations reduce property tax potential. Most CEE countries hardly update real estate values (or cadastre). Additionally, occupied housing is often fully or partially exempt, further reducing income. Unlike many OECD countries, Poland, the Czech Republic and the Slovak Republic use area-based and not value-based indicators to evaluate the value of land and buildings. As a result, property values are underestimated,

especially in urban areas, and property taxes are reduced. A land tax like Estonia's is the most effective property tax because it

encourages housing construction and prevents land hoarding. However, Estonian land tax revenues are very low because of old land value and low tax rate.
In Lithuania, property tax is sometimes considered a "luxury tax", with a minimum threshold so high that few properties are taxed.

## Property tax reform is challenging

Surveying property tax reform through the political process is difficult. The proverb says that property taxes are loved by economists and hated by others. Homeowners hate of property tax reform, especially in the condition of rising housing prices and resulting tax bills. Property taxes are also unpopular because they are outstanding and raise issues of fairness, including when compared to taxes on other forms of wealth, such as financial assets. While in many OECD countries, housing wealth is concentrated among high-income, wealthy and older households, in CEE countries it is more widely distributed. Home ownership rates are very high, exceeding 90% in Slovakia, Lithuania, and Hungary, significantly higher than in most Western European countries or the United States. Many property owners have low incomes, limiting their capacity to pay higher property taxes. Furthermore, house price increases in CEE countries have exceeded the OECD average over the past decade, especially in the Baltics. So proper valuation can mean an intense increase in the tax bill for almost everyone, especially since houses and apartments were often bought very cheaply during privatization in the 1990s.

## Carrying out property tax reforms

To increase property tax revenues, CEE countries should tax all immovable assets, including owner-occupied residential properties, as recommended in various OECD economic surveys. Local

governments should be encouraged to use their taxing power, including through reforms in intergovernmental financial relations

that increase the incentive to collect their own resources. Increasing property tax revenues also requires strengthening information systems to regularly update land and property values. Such upgrades should be supported at the central or regional level of government. Digitizing of cadastral information can help to keep pace with real estate market developments.

Some design options can help to remove political deadlocks and get support for property tax reform. Most importantly, it is phased in to avoid sudden increases in tax bills that hurt homeowners. The most important thing is gradual entry. Tax-deferral – meaning the tax is only paid when the home is sold or passed on to a will, as in Canada, Denmark, Ireland or the United States can reduce pressure on liquidity-constraint households, although deferrals can raise intergenerational equity issues. In addition, progressive taxation, either directly by setting progressive tax rates or indirectly by granting tax subsidies, can protect low-income households and thereby strengthen the acceptance of property tax increases. Finally, comprehensive reform packages, such as reducing the most harmful taxes (e.g. exchange tax), improving local public services; or funding social housing programs, may also bolster much-needed political support.

Comprehensive property tax reforms can be successful: In 2017, Denmark passed major property tax reforms that required a reassessment of the fair market value of properties, while tax rates were reduced. Tax payments can be deferred until the home is sold and reducing liquidity constraints. Ireland designed property tax reforms in a similar way in 2013, strengthening political support in particular by allowing households to defer tax payments.

## The effect of tax on the transfer of real estate and housing in Iran

One of the problems of the urban system in Iran is price fluctuations in the housing sector. Two important factors have been effective in

creating turbulence in the housing market in Iran. The first factor is the age pyramid of the population and the increase in the consumer demand for housing, which has occurred due to the arrival of the young population seeking housing. The second factor of disorder in other investment markets is due to instabilities and economic problems that have led to the entry of stray liquidity into the housing market and predictable and continuous growth in housing prices. This has turned the housing market into a market with guaranteed profits and low risk investment. Therefore, speculative motivations create or intensify a price bubble in this market by fueling the growth of housing demand. In the conducted studies, the role of speculative demands in creating a price bubble has been confirmed.
Turbulence in the housing sector through the distortion of relative prices and disturbance in the optimal allocation of financial resources, on the one hand, provides the basis for the deviation of funds from the real sector to the housing mediation sector. On the other hand, it has harmful effects on the economy of the country and the welfare of community members through creating instability, stagnation and reducing the access of households to housing[1]. With
the aim of controlling housing price turbulences, the government

[1] According to the statistics reported by Central Bank and Statistics Center of Iran in different periods and calculations, research, the first shock in the housing sector took place in 1990 and the second shock in 1996, that housing prices in Tehran in 1996compared to 1994 have increased by more than 1.2 times. The third shock occurred in 2001 and housing prices increased by more than 50% in 2002 compared to the previous year. The fourth shock occurred in 2005 and housing prices in Tehran increased by 68 percent in 2006 compared to the previous year. The fifth shock occurred in 2011. And the average price per square meter of a residential unit in Tehran has grown more than twice from the first half of 2019 to the first half of 2019. Finally, the last price shock happened in 2017 and caused an increase of more than 80% in the housing sector. According to official statistics, the rent in Tehran for new contracts signed in June 2017 has increased by 25% compared to June last year and in some high-demand areas in Tehran's housing rental market, the rate of rent growth has been higher than the growth rate announced in the statistics. Therefore, in the current situation, considering the presence of more than 35% of tenant household in the urban areas of the country, paying attention to the social rights of tenants, who make up more than one third of the urban population of the country, is necessary and a defensible position. In addition, global experiences show that despite the existence of inappropriate economic and

social consequences resulting from rent control, such measures can be prescribed in critical situations

can play an important role in preventing the deviation and influx of capital into the housing sector with the aim of speculative activities. Based on this, the question that arises is how the government can reduce speculation in the housing market?

Therefore, identifying the major factors affecting the turbulence in the housing sector and paying attention to the role of monetary and financial policies of the government in order to prevent and reduce its adverse effects are the goals of policy makers and economic planners. Considering the role of tax in the real estate and housing sector in reducing housing market turbulences, this research analyzes the effect of real estate and housing tax on reducing the housing market turbulences in urban areas of Iran with an emphasis on real estate and housing transfer tax in the period of 2015-2016 is analyzed using generalized method of moments model (GMM).

## Real estate and housing tax system in the world

### Housing market

Five models are used to determine the housing price: The four- quadrant static model, the stock flow model, the demand-side model based on household power, the model based on speculation in the housing market, and the Hedonic model of housing price.

**Four- quadrant static model:** This approach was developed by Dipaquale & Wheton (1992) to explain price determination in the housing market in the long term. The theoretical basis of this model is based on maximizing the utility of the household relative to the constraints of the household budget. In the four-faceted model, the housing market is a combination of two asset markets and the real estate market. The real estate market is a market in which buildings are bought or rented for residence, but the property market is a

market in which buildings are bought or rented for investment purposes.

Market demand can change over time under the influence of demographic or income factors. With the increase in demand, the rental price will increase, assuming that the housing inventory is approximately constant. According to the assumption of the model, this increase will increase the price of housing and as a result the volume of construction and finally the inventory of housing, and the market will be in long-term balance again. With the increase in the rate of capital return, the slope of the price curve will increase in the second quarter and become more vertical and due to the increase in the opportunity cost of owning property, its demand and price will decrease. The decrease in housing prices causes a decrease in construction activities and, as a result, a decrease in the supply of new housing and a decrease in the building inventory, and the rent level increases.

the stock flow model of this approach is presented by DePascal and Wheaton (1994). In this approach, the dynamics of adjustment and the quality of rebalancing the housing market are examined. In this approach, the demand for housing in the period is influenced by the number of households and the cost of ownership. The cost of acquisition also depends on factors such as the current housing price, the current interest rate, especially the interest rate of loans granted for the purchase of housing, maintenance costs, and the price expectations of agents, which indicate their prediction of capital gains due to future price changes. Maintenance costs are affected by property taxes and depreciation.

**The demand side model based on household purchasing power**, this approach was presented by De La Paz (2003). And according to that, the process of housing price formation is such that the main factor affecting it is the number of

households and their purchasing power. In empirical studies, the factors affecting housing prices are summarized in three

factors: population, income and interest rate. In this approach, housing prices in different regions depend on the number of households in the market and their access to housing. The access factor means the capacity that the household has to enter the housing market in any period. This capacity generally depends on three factors: the possibility of obtaining a mortgage, the available assets to provide the necessary liquidity to fill the housing price gap and its exchange costs, and the amount of available loans.

The model based on speculation in the housing market: Speculation means buying and selling any type of goods (especially durable and capital goods) in the hope of immediate price changes with the aim of making a profit.

If the direction of future price changes is predicted correctly by traders, speculation can lead to profitable repurchase or resale in the market for them. Housing demand is traditionally divided into two components: consumer demand and speculation (capital) demand. Some recent arguments have considered speculation in the housing market on a large scale as implausible. Because if the exchange costs of buying and selling property are high, it may greatly reduce the expected incomes obtained from real estate speculation.

The Hedonic model of the housing price in this approach, the design of the Hedonic function of the housing price is based on the fact that housing is a heterogeneous commodity and is composed of a set of physical and observable characteristics. The Hedonic function attributes the difference in housing prices in different areas to these objective and different characteristics and only includes the numerous and different physical characteristics of residential units in price modeling. In practice, the hedonic function of the housing price is through fitting the housing price to the characteristics of the

residential unit, such as environmental- welfare characteristics, such as air pollution, noise pollution, traffic

load of the place, crime rate in the region, physical characteristics of the residential unit, such as size, oldness, type of materials, land area and neighborhood characteristics such as access to pathways and main roads, access to public transportation, access to educational centers and the labor market.

**- Taxable base**

Taxation on real estate and housing is done with the aim of obtaining stable urban income, optimal allocation of resources and minimizing disruption in the price mechanism, controlling speculation and extreme fluctuation in the housing market. In most countries, property tax has been proposed as property use tax, property ownership tax and property transfer tax. In this context, different taxes are imposed with different goals. According to the international tax classification, property tax includes repeated taxes on immovable properties that are imposed as gross debt on the owner or tenant. Frequent taxes on net worth, property tax wealth, inheritance and gifts, and taxes on financial and capital transactions include the transfer of check and securities or the sale of assets. In imposing taxes on real estate, all types of lands including residential, commercial, industrial and agricultural land are taxed.

Land and urban housing as a special commodity with properties such as heterogeneity, non-substitutability, and irreplaceable along with the lack of complete flow of information in this market, external and mutual effects of this market with parallel markets and limited land resources and like that, it has led to this market always being heavily influenced by speculative demands and increase the price of land and consequently housing. In addition, it is affected by its surrounding

environment and geographical conditions such as accessibility and other factors. However, a comparative

analysis of countries indicates that Capital Gains Tax (CGT), Land Value Tax (LVT), Vacant Housing Tax (HT) and Real Estate Transfer Tax are the most important taxes applied in Real estate and housing sector.

In the capital gains tax, the first property of a person, which is a consumer demand, is exempt from this tax. Also, producers who produce and supply residential units in a certain period of time are exempt from paying this tax.

Therefore, the capital gains tax only targets speculative demand and increases the cost of these demands in the land and urban housing market. Therefore, it has no effect on the cost of consumer demand and productive capital. Also, the collection of this tax can lead to income and finance many national projects through it. There are differences in the methods of collecting this tax in different countries, and the general principles governing this type of tax are:

1. Collecting taxes based on the profit from the purchase and sale of real estate;
2. The welfare of the shelter and the consumption motive dominating the purchase of housing from paying taxes;
3. Distinguishing between speculation and housing consumption motives in determining the rate and basis of capital gains tax in a certain period of time (for example, 3 years).

In most developed countries, to increase the cost of speculative transactions, they impose different rates on land and housing property transfers and prevent the formation of this type of transactions. Because speculative activities in the land and housing market provide the interests of a few people and cause extensive losses to social interests and the national economy. Since the degree of dominance of speculative demand for housing has an inverse relationship with time, the

base of this stepped tax is inverse, and with the increase of the time interval between buying and selling, a smaller part of the

gained profit will be taxed. This tax rule is called longitudinal tax on housing transactions.[1]

Imposing a longitudinal tax on transactions, despite the fact that it somewhat increases the entry fees for speculative demands to the land and housing market, has no effect on the cost of consumer demand and productive capital. Because people who buy housing for their consumption demand use the residential unit for at least 5 years, as a result, this tax will have an anti-inflationary effect by reducing part of the destructive or speculative capital demand and along with its other advantages, such as providing part of the government's income, it stabilizes the land and housing market.

To impose tax on property in general and land and building in particular, the taxable base is determined at first. In the next step, the value on which the tax rate is applied is determined. In countries with a lower degree of development and consequently, the restriction of alternative investments, a higher percentage of the national wealth is in the form of land. Excessive interest in investing in land compared to other wealth-creating factors, is refer to its unique features such as the ability to be used repeatedly and the not-transferable and immortality of land. Also, investing in land creates a lot of income for people in an easy way and without work.

Therefore, it is necessary to distinguish between investing in land as a factor of production and investing in it in order to

1 For example, if the purchased property is sold in the first year after purchase, 100% of the profit and 80% of the profit in the second year will be taxable. This ratio will decrease from 70% to 50% of the profit earned in the third to fifth year, and the sale of the purchased property in the following years will reduce the tax base. A necessary condition is the inclusion of tax on residential capital gains, is the sale of land and housing.

Therefore, people's first property, which is their consumer demand, is exempt from capital gains tax. In addition, in the context of capital gains tax, most producers who produce and supply residential units in a certain period of time (for example, a period of three years) are also exempt from paying this tax

earn windfall profits. Based on this, considering the nature of the land and its contribution to the cost of housing, land management is of great importance. Land management is an integrated system for solving land-related issues and all activities related to land management include agriculture, mining, real estate management, and urban management.

In general, the valuation of housing assets is done in two ways: valuation based on market value and valuation based on area. The advantage of area-based valuation is that taxpayers have less chance of tax evasion compared to the value-based method. However, the examination of the experience of the countries indicates that in cases where it is possible to determine and use the market value, this method is usually chosen as the best method of valuation of the tax base. Because, firstly, the benefits of the service are crystallized in the value before being reflected in the area. Secondly, the market valuation method has the possibility to include the works related to the existing facilities in the neighborhood or the facilities provided by the government budget. Thirdly, the area-based method compared to the market value-based method imposes a relatively higher burden on low-income taxpayers compared to high-income taxpayers. The reasons for this are that the average income of households in higher value neighborhoods is usually higher than the average income of households in lower value neighborhoods. Meanwhile, in the area-based method, households must pay the same tax for land with the same area, regardless of which neighborhood it is in.

## Subsidy effect on housing economy

As a driving factor in the economic cycle, the housing sector is usually prioritized by economic planners, with extensive previous and subsequent links, high employment generation capacity and attracting investors. In the last decade, this sector has been faced with an excessive price increase, which shows the lack of serious attention of economic planners to the housing sector in our country. Since the investment and as a result the employment of the housing sector strongly affects the policy making of the economy, therefore the government should analyze and evaluate the housing sector in the implementation of its policies because providing suitable housing for citizens and especially low-income groups, controlling the housing market and monitoring prices is one of the main duties of governments. Of course, it should be taken into consideration that the housing price can somehow show the needs of the market and even be a predictor of macroeconomic variables such as future inflation.

The historical process of the geography of residence in the world shows that the largest population growth in the world in the past decades took place in the third world and was mostly directed to the low-income and poor sections of the societies. In such a way that at the beginning of the third millennium, a phenomenon called "urbanization of poverty" was mentioned.

The most obvious face of housing poverty can be seen in third world cities. Any of the indicators related to the provision of services, density of rooms or physical quality, we find that the majority of the urban population lives at levels that are not acceptable compared to the lifestyle of Europeans or North America. As a result, in developing countries, the urban poor are settled in non-

standard and lacking quality housing around cities that do not have public facilities and infrastructure.

In the meantime, the most important issue that makes the housing situation in the world more pathetic is the forgetting the low-income groups in the housing supply programs. This problem can be clearly seen in the urban development plans prepared in Iran. In other words, the low-income groups are facing difficulties in providing housing in the cities from the first step, i.e. choosing a place of residence, to choosing the width and size of their housing, the type of building materials and obtaining a construction permit, as well as the use of state credits and loans.

A review of the background of the housing policies and programs of low-income groups during the last three decades in Iran shows that the housing of low-income groups has always been associated with various policies. which can be expressed in the form of two general approaches of supportive land policy and supportive housing policy. The first approach is supportive land policy that is related to the first decade after the revolution and until the end of the second plan, that in the form of this policy, land was handed over individually and cooperatively at a regional price. The second approach is the supportive housing policy that was formed in the period of the third program and the discussion of the law of renting and construction and the assignment of housing in the form of rent under the condition of ownership was discussed in it.

In recent years, many parts of the country's economy, including the housing sector, have been affected by government policies, perhaps one of the most important of them is the implementation of the law on the targeted subsidies. The fluctuations of the housing market show that this sector is still involved in inflation and price increase. A correct analysis of the market situation and a correct understanding of the affecting factors and the degree of effectiveness of eachone in the housing market can help us in analyzing the future of the market and predicting the future housing

situation. Investigating the causes of expensiveness of housing and consequently rents can be investigated from two perspectives. On

the one hand, the affecting factors outside the market or exogenous factors on the housing market, such as the increase in the general level of prices, the liquidity of population growth and major sources of finance, etc., can be examined. And on the other hand, analyzed the internal factors or endogenous factors affecting the said market. The purpose of this research is to evaluate the effects of one of the key endogenous variables of this sector called Mehr Housing Plan and we are trying to answer the question whether this plan, which was budgeted with the aim of providing housing for low-income groups, achieved its goals? Since the targeted subsidies plan was implemented simultaneously with the implementation of the Mehr housing project and it left wide consequences, this question comes to mind whether this plan had an effect on the increase in housing prices? To answer these two questions, in the first part, we examine the housing situation in the country, housing programs for low-income groups, and aspects of targeting subsidies and by stating the events that took place, we compare the housing situation before and after the targeting of subsidies. And in the next section, we will analyze the results based on the data of the Central Bank of Iran and the Statistics Center. Finally, a summary of the topics will be mentioned. In this regard, while examining housing fluctuations and the supportive policies that governments have taken, and looking at the approach of the previous government in the field of low-income housing, namely the Mehr housing project, we will examine the fluctuations of the high-demand housing market from the perspective of government policies, including the targeting of subsidies.

In Iran's economy, there are mainly two important and competing theoretical perspectives that compete with each other in the field of explanation, prediction and prescription regarding the economic situation. One approach is related to the proponents of the

neoclassical point of view, and the second approach is related to those who often work with the theoretical apparatus of

institutionalism. Since shock therapy was implemented based on the neoclassical theory, it is important to consider competing approaches or institutionalism.

In the 1950s, following the cliometric revolution in economic history, economic historians adopted the neoclassical framework and used econometrics to test hypotheses. The historical study of institutions examines how a particular institution such as the market has dominated on exchanges in the past. Data related to prices, quantities and exogenous parameters such as the age, gender and nature of the wheels of different industries were used to evaluate hypotheses to determine that if the exchanges have taken place in a market, then the relationships between the variables are the ones that have taken place. Although the limitation of historical data limits the application of this method. But the analysis of this article confirms that the markets have worked in many historical periods.

Coase's (1937) early work influenced the neoclassical approach about non-market institutions. Non-market institutions are contractual relationships and patterns of property rights that provide efficient responses to market failures at high prices.

From the point of view of development, there have been criticisms on neoclassical economics that show the inadequacies and limitations of the neoclassical view. Here we will mention only a few of them. First, neoclassical economics ignores the influence of institutions on human behavior and attitude (Hodgson, 2006). In other words, the neoclassical approach considers human behavior very simplistic in its conventional models while in the real world, the motivations of economic actors are much more complex and their preferences are more internal than can be assumed in neoclassical abstract models.

Second, the efficient markets of the neoclassical theory only work when the exchange is costless. When exchange is expensive, institutions become important, and since most of our national

income is spent on exchange, institutions and especially property rights become important indicators for the efficiency of markets and secondly, in Walrasian's view, only by accepting the point that goods are one-dimensional and are exchanged instantaneous, the issue of monitoring and enforcement has been considered unimportant. Meanwhile, if we add the costs of obtaining information and especially the costs of measurement to our total costs, we will see how serious the importance of the implementation issue is.

According to the institutionalists, the models of the neoclassical school have assumed patterns that, if fully realized, the neoclassical school will fully explain economic behaviors. But for example, in a society where there are different exchange costs, institutions become important and should be included in economic analysis. Of course, it should be noted that the institutionalist approach has never believed in subverting and eliminating the neoclassical school and only considers it insufficient in analyzing economic issues. In other words, the institutionalists consider the neoclassical method, which is based on analogy and analysis in an abstract environment and using mathematical tools, insufficient to understand an economic phenomenon, and they believe that in order to better understand economic facts and laws, they must be followed in the heart of economic realities.

The term institutional economics was proposed by Walton Hamilton in one of the American economic meetings in 1918, and people like Michel Clarke, Veblen and Commons were the intellectual leaders of this school. Institutional economics alone satisfies the demand for a generalized description of the economic order. The institutional approach claims to explain the nature and scope of the existing order among economic phenomena or issues and phenomena related to the relationship between industry and human

welfare. According to Edwin Kanan's expression, this approach tries to explain why our welfare state is the way it is now?" and "why

some of us have a better welfare state than others?". Probably, such an explanation cannot be properly presented based on the formulas that explain the processes of price emergence in the market. To search for such an explanation, we have to study the customs, manners, intellectual habits and ways of doing the pattern of economic order. This study should present the relationship between the institutions that together form the organization of the modern industrial society. Undoubtedly, the institutional approach is a suitable way to reach an acceptable truth.

Therefore, in this research, with an institutional approach, we addressed the issue of the government institution in Iran and its role in economic developments, including the targeted policy of subsidies and Mehr housing and we check the level of ability to achieve the goals of each one. First, we briefly state the factors affecting housing. Several factors affect the supply, demand, and price of housing, and these factors can be divided into two categories: exogenous and endogenous. Factors that cause changes in the volume and supply and demand in the market are endogenous factors and the factors that are determined as a result of market fluctuations caused by positive and negative oil shocks, capital market fluctuations, government policies, etc. in sectors other than housing and affect the performance of the housing market are exogenous factors.

In examining and analyzing the behavior of variables in the housing sector, first with a systemic approach, we should refer to the exogenous factors that are effective and have an impact on this part of the economy:

1. One of the variables affecting the housing sector is the increase in the general level of prices, which has various effects on the effective demand for housing. Its negative

effect appears in the form of a decrease in people's purchasing power, and its positive effect is that when

households see the trend of price growth in order to maintain and stabilize their assets, if the amount of risk and rate of investment return in other economic activities is not optimal, otherwise, they move towards the construction and purchase of residential units. But the effect of this increase in the general level of prices on housing prices depends on the type of inflation in different years. Thus, a one-time increase in the general level of prices with an increase in the cost of housing production causes an increase in housing prices, but a chronic and long-term inflation like Iran's inflation makes this impact less and less effective.

2. Another influencing variable on housing prices is population growth. It is clear that with the increase in population, the demand for housing will increase and will affect the price of housing.
3. From the macro-economic dimension, the influx of liquidity into the housing sector leaves irreparable destructive effects, both in terms of a sharp increase in price and a decrease in effective demand, and in terms of creating extreme fluctuations in housing production. The decrease in the effective demand of households, especially for the low and middle income groups of the society, is one of the most harmful effects of housing inflation. Under these conditions, the government's intervention and assistance is necessary to compensate part of the loss of the low-income classes as the cost of the structural problems of the country's economy.
4. Another important and effective variable is the main sources of financing for housing, including banks and financial institutions and housing bank loans. Also, the examination of the general trend of the macro-variables of the hypothesis confirms the existence of a negative relationship between the housing price and the interest rate of bank loans.

5. Other important variables also affect the housing sector, including parallel investment markets such as the gold

market, stock market, and foreign exchange. Since gold (coins) and housing are two alternative goods in terms of speculative motives, the relative price of these two is very determinant in relation to demand elasticity. Also, there is a significant relationship between the real exchange rate and housing prices in the long term.

6. One of the most important external factors affecting the housing sector is the targeted policy of subsidies, which, with proper understanding, measures the extent and manner of the effectiveness of the housing sector, and solutions can be provided accordingly. In this regard, studies show that with the implementation of supportive policies, although people with low income became home owners, but with the entry of high income deciles into this market, it turned into rent-seeking for a group of people.

   In addition to the mentioned cases, among the most important internal factors affecting the housing sector, we can mention the Mehr housing project, which, due to some reasons such as lack of infrastructure facilities, rapid transportation problems, etc., could not achieve its desired goals, including reducing housing prices and provide housing for low-income groups. Another effective internal factor in the housing sector, which has a fundamental relationship with the price of energy carriers, is the construction costs and, as a result, the finished price of the building, which limits the suppliers. The main purpose of this study is to investigate the dimensions of the subsidy targeting plan and its effects on the housing sector. In recent years, when the name of housing is mentioned, it is followed by the discussion of Mehr housing and low-income housing. And it can be said that it is necessary to analyze the housing

sector as closely as possible, to examine the dimensions of the Mehr Housing Plan.

## 1. Housing situation in the country

The housing sector is one of the most important sectors of Iran's economy, which has a major contribution to GDP, investment and employment, and acts as a driver for many economic sectors due to strong previous links with other economic sectors. The previous link index of the residential buildings sector in Iran has always been in the first ranks in the output data tables, so that the prosperity of this sector strongly affects the economy. The economic and political developments of the past 30 years have faced ups and downs in all economic and social sectors, including the housing sector. Since the city of Tehran is a clear symbol of housing price changes and most of the policies are based on the problems of big cities including Tehran.

According to the report of the Central Bank of the Islamic Republic of Iran, since the fourth quarter of 2008, the decreasing process of obtaining building permits has stopped. Until the end of 2009, the said index enjoyed a good growth as an index of housing production. The added value of the construction sector also increased in 2009 compared to the constant price of

2006 from a growth of 3.7% and the gross fixed investment in the building also increased to the constant prices of 2016 equal to 8.7%. However, the amount of investment in new buildings in urban areas after adjustment based on the growth of the price index of construction materials and services based on fixed prices (2013) decreased by 0.7% compared to the previous year. Summary of the country's economic developments (2009) One of the most energy-intensive activities is the production of building materials, which have direct and

indirect effects from this area. Lack of government supervision and control on the one hand and exchange

rate fluctuations on the other hand have had a significant impact on the increase in the price of construction materials. Certainly, one of the main reasons for the increase in housing prices in recent years is the increase in the price of construction materials, which occurred as a result of shock therapy in relation to the price of energy carriers and imposed unavoidable effects on the economy and especially on housing prices.

**2. Housing programs for low-income groups**

With the implementation of supportive land and housing policies, although a number of applicants with low incomes became home owners but with the arrival of people with high deciles to get cheap urban land, in the end, this policy caused rent-seeking rather than providing housing for low-income groups and the intended goals of the program, which was to provide housing for the target groups, were not fully achieved.

Since 2006, the Ministry of Housing and Urban Development, in the form of organizing and supporting the production and supply of housing, had foreseen methods to provide housing for low-income groups, which include:

Construction and supply of Mehr housing with the aim of reducing and eliminating the cost of land from the cost price of housing

Providing rental housing with the aim of increasing the access of low-income and middle-income households to rental housing

Improvement and renovation of rural housing in order to meet the needs of villagers for suitable housing in terms of safety, space and facilities.

In developing the approaches of the fifth plan in the housing sector, the goals of the presented policies and

strategies are based on two approaches. The first approach is to support housing programs for the low-income and young sections of the society with special emphasis on the supply of residential units that are suitable for the financial capacity of young households. And the second approach is supporting the retrofitting of buildings, reforming the consumption pattern and increasing the quality of constructions using modern technology. In addition to this, housing has other properties such as heterogeneity. This heterogeneity can be examined from two aspects. First, the internal characteristics of the residential unit, such as the size, map, quality of materials used, etc.; Second, the characteristics of the neighborhood, such as the area where the residential unit is located, proximity to shopping centers, etc. The high ratio of housing price to family income (being expensive) is one of the other characteristics of housing, including Mehr housing. Each of these features will be the beginning of a new topic in the housing sector. Examining this issue requires a comprehensive database of housing transactions and the characteristics of each residential units.

Mehr housing as the biggest government project in the field of low-income housing, in addition to not complying with the mentioned internal and neighborhood features, also it has not achieved its basic goals, such as creating a balance between supply and demand and providing housing for very weak sections of society, such as people under the aid committee and welfare organization. On the one hand, the effects of shock treatment that appeared with the increase in the price of construction materials caused an increase in the

cost price of housing, and the vulnerable and weak sections of the society, who were the main target of this

project, could not afford to pay the cost price and on the other hand, with the increase in the currency exchange rate and the current inflationary stagnation of Iran, as well as the rentier economy, another group replaced the target group or the vulnerable classes. Since the Mehr housing project has been proposed as the most central national program since 2007 and desired by the major policy makers of the country, it can be analyzed from many dimensions.

**3. Targeting of subsidies**

Adam Smith, the founder of the classical school, was a serious opponent of government interference in economic activities. This vision dominated the economy of the West before the world wars, but with the outbreak of war and the emergence of inflation along with severe economic recession in the 1930s, new ideas such as Keynesian economic ideas gained strength in which the government was raised as one of the most important factors regulating and moderating economic activities. With the implementation of this policy and the improvement of the economy of the West, gradually, the control in the financial and monetary policy department and the administration of the public sector in the economy was entrusted to the government and anyway, from this period, which was on the verge of the beginning of the Second World War, the payment of subsidy in modern's concept was formed. Subsidy, as a concept in microeconomics, is the amount paid for each unit of goods or services, which is considered either as a certain amount of money for each unit of goods or services or as a certain percentage of the price of each unit.

Subsidies can be a form of protectionism or trade restriction by making domestic goods and services

artificially competitive against imports. Also, subsidies can disrupt markets and impose large costs on the economy. Proper definition of subsidies is one of the essential elements of any kind of policy, in this way, the type of payment, whether direct or indirect, cash or non-cash, the payment period, the paying institution, and most importantly, the purpose of the payment should be clear. Goals include keeping prices low, increasing real purchasing power, supporting low-income groups and income distribution, promoting social justice, optimal distribution, sources of social welfare, or even compensation for losses caused by government policies. It is conceivable for subsidies.

Subsidies are actually a form of government support. The issue of support in the realm of economics is a very deep-rooted debate with solid theoretical and empirical foundations. A large part of technological development and industrial development in successful development experiences is a product of protectionism and since the industrial revolution until now, we do not know a single successful experience in the field of development at the world level that has been able to achieve development from a path other than protectionism. The issue of government support can be divided into two groups, production-oriented and consumption-oriented, and according to the institutional frameworks, conditions and economic situation of the country, and the desired goals, the correct policy should be applied. The point to consider is that the government that wants to carry out this process must have an acceptable level of specialized scientific qualification and administrative health and stability.

But the introduction of the law of targeting subsidies to the country's economy affected some important and

sensitive markets. Since there is a logical and unseen relationship between the price shock of energy carriers and the consequently increase in the price of some goods and among others the price of housing, the housing market was severely affected and faced with excessive price increases. It can be said that all economists agree with the necessity of targeting subsidies. However, according to Iran's economic and political conditions in legislation, the appropriate manner and time of implementation, the conditions governing the economy and most importantly the identification of the target groups, there are different points of view and the targeted plan of subsidies is facing a huge number of opponents and supporters. The supporters of this plan emphasized on social justice and eliminating poverty, while the opponents say that this policy will increase inflation, as a result of increasing the price of basic goods and reducing the effect of subsidy payments in the next cycle due to inflationary expectations. The discussion of the effects of targeted subsidies and the reasons for those in favor and against can be discussed from many points of view, but what is certain is that the current implementation of this law and cash payment to the majority of the society does not absolutely mean that the subsidies are targeted. In this research, we limit the discussion to the targeted effects of subsidies on the housing sector.

- "Liquidity" and "housing demand" are two very important factors, each of which shows behaviors under the influence of the implementation of the subsidies law that if it is possible to make reasonable predictions about the type of these behaviors, the trend of the future

change in housing prices will be imaginable. Liquidity increased with the implementation of the law on

targeting subsidies, which was manifested only by cash payment. As mentioned in the theoretical foundations, the increase in liquidity reduced the demand for housing and this issue imposed severe destructive effects on Iran's economy and especially on the housing sector.

On the other hand, the current demand in the housing market does not have access to bank resources to compensate for the lack of financial power to purchase housing. Also, there is an inverse relationship between the interest rate of bank loans and the rate of increase in housing prices. The theoretical justification of this phenomenon is based on the principle that with the increase in the interest rate of bank loans, the cost of borrowing from the banking system increases, as a result the demand for housing decreases.

Following severe inflation, people withdraw a major part of their savings from the banking network, and in order to maintain the value of their assets, liquidity withdrawn from banks is taken to the coin, currency, gold, bond, stock market, and housing markets which, this will increase the exchange rate and weaken the national currency in the country. Meanwhile, the insecurity of some markets by the government, such as the bubble created in the gold and coin market and the high risk of investing in it, as well as the lack of wideness and depth of the stock market, makes the housing market have the potential to attract the liquidity available in the market that is present with speculative motivation. This will increase the price of housing more and more.

Another possibility that can be proposed about the future of the housing market and property prices under the

influence of the implementation of the subsidies law is the change in construction costs and the cost price of

housing construction. Shock therapy increases the price of housing because due to its implementation, the main elements of construction such as manpower, materials and other services become more expensive and its impact is directly transferred to the housing sector.

In order for a policy to be convincing and to have scientific authority and power, it must have a solid theoretical basis. Before adopting any type of policy making, we must recognize the underlying forces and structures in which the policy is aimed at transformation and change in them. What is certain is that before the implementation of the subsidy targeting plan, goals were set by a group of economists and the government with wrong predictions of the country's future economic situation. Now that the first phase of targeting subsidies has been implemented, a review on the objectives set by the experts and what has been implemented can put the country's economy on a better path.

## Analysis of factors affecting housing prices

Wide fluctuations in housing prices, especially in big cities, can be considered the most obvious feature of this sector. Paying attention to the effects of housing price fluctuations on household welfare and the real sector of the economy shows the importance of investigating this issue. In the meantime, housing price developments in Tehran have attracted the most attention to itself. The housing market in Tehran is constantly faced with the problem of sudden and short-term rise in prices and relative stop and stability of nominal prices combined with sector recession. Choosing the location of Tehran city is also more correct in terms of methodology, because the housing market in each region is influenced by local factors in addition to being influenced by

national factors which makes the analysis of housing market performance at the regional level more justified.

## The formation of prices in the housing market

In this part, in order to explain the theoretical foundations of the formation of prices in the housing market, the properties of housing and its market are discussed first. The purpose of this study is to establish a relationship between housing characteristics, housing market characteristics and price fluctuations in this market and to show how housing price fluctuations are related to housing market characteristics and its inherent (physical) characteristics.

1. **Characteristics of housing**

   **Vitality:** Housing as a shelter is a product without a substitute, and this feature makes the demand for housing to have a predictable and stable trend.

   **Durability:** The durability of housing is the basis for its role as a capital good and a type of asset, and as a result, the density of its demand.

   **Heterogeneity:** no two properties are completely similar and substitute each other which the underlying factors of this lack of homogeneity are related to physical characteristics and geographical characteristics (property location). The heterogeneity of housing causes sometimes a significant price difference between different residential units and the impossibility of forming a market containing transparent and publicly available price information - such as the stock exchange in financial assets - for the housing market.

   **The dual nature of capital consumer**

   While housing is a consumer good as a shelter, its durability and relative correlation of its price with economic foundations provides the ground for its

transformation into a capital asset and as a form of wealth storage. On the contrary, consumer demand for

housing is stable and predictable due to the lack of substitutes, capital demand has been influenced by various and complex factors and is therefore extremely unstable. Therefore, housing demand is volatile.

**Indivisibility:** Housing is an indivisible commodity and some kind of "all or nothing" conditions apply to its purchase, sale and maintenance. For this reason, entering the housing market requires a significant amount of cash capital, which means a sharp reduction in the possibility of diversification in the asset portfolio.

**Inconvertibility:** Housing is one of the most important goods that cannot be transferred. This differentiates the housing market from other markets in terms of being influenced by foreign trade and the impossibility of market regulation and price control through imports or exchange rate control.

2. **Features of the housing market**

The characteristics of the housing market, most of which are related to the inherent characteristics of housing, are:

**Information inefficiency:** In terms of information, the real estate market is full of asymmetries and deficiencies. Part of this lack of transparency and information deficiencies is due to the lack of a public market containing information about prices and exchanges (similar to the stock market). The lack of a public market containing up-to-date, fluid, reliable, accessible and extensive information about exchanges and especially prices, leads to high costs of gathering information for decision-making and the foundation of information asymmetry between active agents in the market.

**High transaction costs:** Exchange costs in the housing market are significantly high and have important consequences on the performance of this market and the

formation of prices in it. Exchange costs in the housing market based on an exchange flow in the purchase or sale of housing, including information costs (any cash costs or time allocation costs in order to collect information to estimate the correct current value of the property), risk cost (risk of capital loss or loss of capital income, legal risks related to compliance with property rights and guaranteeing contracts, risk of changing laws and regulations), moving expenses, especially for the owners, expenses due to commission and carrying out legal processes related to buying and selling and transfer of ownership.

The high monetary value of the property, along with its significant exchange costs, causes a decrease in the number of transactions and the so-called dilution of the housing market. The noteworthy point is that these few transactions and the weakness of the housing market in this respect increase the range of information problems of the market, especially the agents' access to current prices and estimate the correct price of the property, and as a result, it adds to the transaction costs.

Another point is that due to the high transaction costs and the lack of transactions in the market, the liquidity of housing is very low compared to other types of assets, which can be considered as another defect in the housing market.

**Slow adjustment against incoming shocks:** Another characteristic of the housing market is that it reacts slowly to market shocks. Lack of clear flow of information and high transaction costs and prices of residential units are among the reasons for the inelasticity of this market against shocks. Considering the slow adjustment

of housing supply and demand opposite of the new information and incoming shocks on

the one hand and the presence of many and sometimes intermittent shocks on the other hand, it is expected that the housing market is generally in a state of imbalance and the prices in it have a cyclical behavior and continuously deviate from their average and long-term value.

**Broad link with macroeconomics:** The expansion of the housing sector and the multiplicity of factors affecting its supply and demand have caused the housing market to have a mutual and two-way relationship with macroeconomic variables. In addition to allocating a part of the added value, investment and labor force employment to the housing sector, this sector has extensive backward and forward links with other production sectors which, this issue strengthens the possibility of extension of the cycles of the housing sector to other sectors and as a result the entire economy or the opposite trend.

## Summary of the results of the studies

| researchers | Time and place limit | data type | Method used | Significant variables (Mentioning the direction of influence | Other results |
|---|---|---|---|---|---|
| Mankiw and Weil (1988) | America 1985 1950 | Annually, real | generalized least squares (GLS) | demand | Meaninglessness of the effect of populatin on housing demand |
| Chen and Patel (1998) | Taiwan 1994 1973 | Seasonal, real | Granger causality<br><br>Vector Error Correction Model (V ECM) | Household income (+), short-term interest rate (-), stock price index (-), construction cost (+), completed building (-) | There is a causal relationship between housing prices and stocks |
| Jude and Winkler (2002) | America 1984-1998 | Monthly panel (130 cities), real | Ordinary Least Squares regression (OLS) Tabular data | Population growth (+), household income changes (+ ), construction cost (+ ), interest rate (-) | |
| Mays and Wallace (2003) | Paris 1987-1992 | Monthly, real | Autoregressive distributed lag(ARDL Equity ( Capital Markets (ECM) | Household income (+), interest rate (-) | Adjustment of 31% per month |
| De La Paz (2003) | Spain 1989-1999 | Tableau (71 cities), | GLS Tabular | GDP Local (-), | |

| | | | | | |
|---|---|---|---|---|---|
| | | real | data | household income (+), size and population of the | |

| researchers | Time and place limit | data type | Method used | Significant variables (Mentioning the direction of influence | Other results |
|---|---|---|---|---|---|
| Shen et al. (2003) | Beijing and Shanghai 1997-2003 | Monthly, nominal | Granger causality<br>Vector Error Correction Model (VECM) | Beijing: household income (+), vacant housing stock (-) Shanghai: stock price (-), GDP (-) | The interaction of housing prices and income in Beijing and housing prices and stocks in Shanghai |
| Abelson et al. (2005) | Australia 1970-2003 | Seasonal, real | Stock-Watson<br>Departme nt of Labor Secretary (DOLS) | Disposable income (+), CPI of the previous period (+), unemployment (-), interest rate (-), stock price (-) | Slower adjustment of prices during periods of price increase |
| Oikarinen (2006) | Helsinki 1975-2006 | Seasonal, real | Vector Error Correction Model (V ECM) | Total income in the city (+ ), ratio of loans to GDP (+) | The meaninglessness of the interest rate in the long term and its significance in the short term |
| Johnston and Watwa (2007) | 18 major cities in Canada 2005 1980 | panel, Annually, real | the genera lized method of moment s)GMM) | Household income (+), population (+ ), change in housing inventory (-), unemployment (-) | Meaninglessness of the interest rate coefficient |
| Galatio et al (2011) | Netherlands 1993-2009 | Annually, real | Ordinary Least Squares regression (OLS)<br>Tabular data | Mortgage loan (+), interest rate (-) | The strong desire of prices to move towards the long-term average |

| researchers | Time and place limit | data type | Method used | Significant variables (Mentioning the direction of influence | Other results |
|---|---|---|---|---|---|
| Printis and Panagiotidis (2015) | Greece 1997-2013 | Monthly, nominal | Vector Error Correction Model (V ECM) | Mortgage loan by the banking system (+), | |
| Khiabani, (2003) | Iran 1992-2002 | Seasonal, real | Autoregressive distributed lag (ARDL)<br>Equity Capital Markets (ECM) | Liquidity ( ), exchange rate (-), gross production (-), stock price (-) | The positive effect of GDP in the short term |
| Askari, Chegini (2006) | Iran 1992-2006 | (Provincial), annual, nominal | Ordinary Least Squares regression (OLS)<br>Tabular data | Stock market index (-), land price (+), interest rate (+), gold price (+),<br>expenses (+ ), household inflation of the previous period as representative of inflationary expectations (+ ) | |
| Qureshi, Pejuyan (2006) | Iran 2004-1971 | Annually, real | Autoregressive distributed lag (ARDL)<br>Equity Capital Markets (ECM) | Oil income (+ ), construction cost (+ ), coin price (-), GDP (-) | |

| | | | | | |
|---|---|---|---|---|---|
| Hadizadeh, Jafari (2007) | Iran 1994-2005 | seasonal, nominal | Autoregressive distributed lag(ARD) Equity Capital Markets (ECM) | Income (+), liquidity (+), construction cost (+ ), inflation (+), stock price (-), completed building (-) | Greater elasticity of coefficients in the long term than in the short term |
| **researchers** | **Time and place limit** | **data type** | **Method used** | **Significant variables (Mentioning the direction of influence** | **Other results** |
| Sabbagh Kermani, Ahmadzadeh and Mousvinik (2009) | Tehran 1994-2006 | seasonal, nominal | Vector Error Correction Model (V ECM) | Land price (+), income (+), construction cost (+ ), previous period price (+), bank interest rate (-) | |
| Suri, Heydari and Afzali (2010) | Iran 1991-2007 | seasonal, nominal | Value at risk(VAR) | Per capita income (+), liquidity growth (+ ), issued licenses (+), bank interest rate (-) | Impact of liquidity interruption on housing prices |

Technical efficiency is one of the factors that always affects the production functions, the demand for goods and services and thereby their pricing, and it should be given special attention in the modeling of the supply or demand side. The change in efficiency through the development of technology and the improvement of the supply side of the economy is one of the important factors that determine the trend. Technology is actually a specific type of knowledge related to human activities. Part of this knowledge lies in machines, part in people, organizational structures and behavior patterns. The first part is usually referred to as crystallized

technology and the second part as non-crystallized technology. Crystallized technological progress occurs when old machinery and equipment are replaced by newer machinery and equipment. Therefore, this item requires a change in the production structure and as a result new investment. In the advancement of amorphous technology, there is no need to replace machinery and equipment and as a result change the existing capital, but this lies in the knowledge of consumers, producers and their productive and consumption behavior. The meaning of knowledge in this case is the efficient use of available resources and production factors. Technical changes (of both types) have two exogenous and endogenous parts. The exogenous part takes place independently over time, and the endogenous part is the result of changes in other factors. Considering that the endogenous component of technical changes does not necessarily occur at a constant rate over time, therefore modeling this component of technical changes as a linear function of time will not be a suitable method. Unlike the endogenous component, exogenous technical progress can be considered as a simple linear function of time. A difference between the progress of crystallized and non-crystallized technology (endogenous component) is in the way they react to changes in other factors affecting demand and supply. Considering that both of them develop at a constant rate over time, it will be difficult to separate the amount of changes in each one. On the other hand, changes in consumer preferences and non-economic factors such as population, transportation, social and geographical factors can affect the modeling of housing demand and its price. This factor can also be analyzed in the form of an exogenous component of amorphous technical changes.

# Chapter Eleven

## Housing economy inflation

The importance of price stability in the economic development of developing countries has been emphasized by many economic planners and policymakers because inflation in these countries is considered a serious threat to the economic and political system. The important goal of the development programs of the housing sector in Iran has been to achieve rapid economic growth along with stabilization of prices, but the significant growth of prices and the high level of inflation have become one of the most important levers of pressure for the Iranian economy. The continuous and rapid growth of the price level in Iran's economy started from the early fifties, along with the significant increase in the country's oil revenues, and continues to this day and has become one of the most acute economic and social problems of Iran. Fluctuations in economic variables, especially the fluctuations in the asset market, are a common phenomenon in most countries, so that the economy sometimes reaches its peak and sometimes reaches its nadir point. The increasing importance of the asset market in the economy of a country makes it necessary to constantly review this market. One of the important components of the asset market is the housing market. In recent years, the housing market has always faced speculative

fluctuations, and this issue doubles the importance of monitoring, policy making and controlling the housing market. Countries that have a high fluctuation in the housing sector, the central bank and the government are facing the challenges of inflation pressure and at the same time they are looking to minimize the effects of inflation. The formation, expansion and collapse of price bubbles and fluctuations in the housing market will lead to severe fluctuations in the price level of goods and services. Failure to pay attention to the relationship between housing sector fluctuations and economic fluctuations will fail the government and the central bank in achieving the task of economic stabilization. The existence of fluctuations in different markets is one of the new theories in the field of macroeconomics that due to the disruption in the current process, correct information has emerged in the market and ignoring this factor will impose heavy costs on the national economy. Therefore, the effects of inflation on the housing market is one of the important discussions because the fluctuations of the housing market not only affect the economic environment, but also affect the stability of the financial system. Therefore, policy makers should pay attention to it and improve macroeconomic indicators.

Housing prices and rents can be affected by inflationary expectations or be affected by them. Increasing wealth through price increases can lead to inflationary expectations. Households increase their consumption by feeling the increase in wealth through the increase in housing prices. Therefore, if the increase in supply does not respond to the increase in demand due to economic restrictions and bottlenecks, inflationary pressures will intensify. The increase in housing prices quickly raises the inflationary expectations in the private sector, which is obtained after the resonance of real inflation, finally, the increase in housing prices can provide a signal to the central bank that the private sector expects higher inflation. This information may affect the central bank's expectations of

future inflation. Inflationary pressures will intensify when real housing prices increase, thereby increasing consumer expenses and

increasing total demand. As a result, the cost of living has increased and is reflected in the increase in the price level. When the price of real housing increases, the collateral value increases, and with the increase in asset prices, the supply of credits increases and the interest rate decreases.

On the other hand, raising inflationary expectations can create the feeling in housing producers and consumers that housing prices will increase in the future and their reaction will increase housing prices and intensify it, because consumers buy housing faster in order to avoid the loss of price increase, and the producer tries to get more profit by delaying the sale time during the peak housing price period and it should be noted that people have different expected prices.

Stevenson (2000) analyzes the relationship between different indices of inflation and the housing sector in 11 regional markets and the national market of England during the period (1968-1997) using Ordinary Least Squares regression (OLS) cointegration and Granger causality models. This study first examines the relationship between the housing market and total inflation and then the relationship between the housing market and expected and non-expected inflation. The results show that this model does not provide strong evidence regarding the effect of inflation indicators on housing efficiency, then, it examines the long-term relationship through cointegration tests and finally, the two-way relationship between these two variables through Granger causality. The co-accumulation and Granger causality tests emphasize the long-term relationship between inflation and the housing market and indicate the existence of a long-term relationship between these two variables.

In a study, Brunnermeier and Julliard (2005) examine the relationship between inflation and the housing price bubble. For this investigation, they use the VAR method for the two countries of the United States and the United Kingdom during the period (1966-

2005). They use the price-to-rent ratio index as a measure of the

housing bubble. The results show that there is a negative correlation between the price to rent with inflation and the nominal interest rate and the decrease in inflation and the nominal interest rate explain a high share of the changes in the housing price bubble. The results of the study have shown that changes in inflation are the main factor of fluctuations and housing bubbles. Also, the decrease in the inflation rate affects the price of housing and causes the formation of monetary illusion in the housing market and that people rent a residential unit or provide shelter through the purchase of housing, and the comparison of installments and rent creates this problem. A lower estimate of the cost of mortgage installments in the future will make consumers to buy housing and the pressure is put on the housing market and the prices go up. In order to investigate the effect of inflation on housing prices through monetary illusion in the housing market, first of all, the expected changes caused by infrastructure factors such as changes in the cost of land and materials are separated from the total housing price changes. The results have shown that inflation and interest rate explain a considerable part of the long-term changes in the non-fundamental price of housing. A significant part of the increase in housing prices in the 1990s in America was due to the decrease in interest rates.

In a study, Padilla (2005) has investigated the effects of oil price, employment, exchange rate and interest rate on housing prices and rents in Canada. It also determines the time interval between these variables. The period under study was (2004-1978) and the survey was conducted using the OLS method. The results indicate that the real oil price, employment exchange rate and interest rate explain more than 98% of the changes in housing prices. The price of oil has a positive effect on the price and rent of housing with 7 seasonal breaks. The exchange rate has a direct, negative and significant effect on housing prices and rents with 4 seasonal breaks.

Employment also has a positive and significant effect on housing prices and rents. Interest rate with 10 seasonal breaks has a negative

and significant effect on housing prices, but it has no effect on housing rent.

In a study, Hin Li and Lin Ge (2008) investigated the relationship between inflation and housing efficiency in Shanghai, China during the period (1997-2005) and expands the model of Fama and Schwert (1977). It uses OLS models and Granger causality tests and ECM to investigate this relationship. First, it examines the effect of inflation and then the effect of expected and unexpected inflation on housing efficiency. It uses the autoregressive integrated moving average (ARIMA) model to separate inflation. The results of the regression equations show that inflation explains only a small proportion of the efficiency changes. Therefore, in the short term, the imbalance of supply and demand can have a greater effect on housing efficiency than inflation. Long-term analysis shows that real estate in Shanghai can be a great hedge against inflation. The results of ECM indicate that the housing yield rate and total inflation have a cumulative relationship with together and confirm the existence of a long-term relationship between them. The results of Granger causality also show that housing efficiency is Granger causality of inflation. In a study, Demary and Markus (2009) analyze the relationship between real housing prices and key macroeconomic variables such as inflation, production and interest rates for ten OECD countries using the PVAR method with quarterly data from1970 to 2005. Restrictive monetary policy reduces real housing prices. Because the high interest rate increases the cost of financing housing projects and thus the demand for housing decreases. The empirical evidence of these results also confirms that the monetary policy shock reduces real housing prices in ten selected countries. The results of the impulse response function show that the inflationary shock increased the real housing price in Spain and Denmark, and in eight other countries housing prices decreased contrary to expectations. Also, in Japan and Spain,

inflation is the Granger causality of housing prices. If the prices increase, the monetary authorities have to react to it by increasing

the interest rate, thereby increasing the cost of providing housing projects. The results of the impulse response function show that after the inflation shock, the interest rate increases and as a result the housing price decreases, also the real housing price increases after the production shock in the selected country.

An increase in the real price of housing leads to an increase in the net wealth of households and also causes an increase in consumption expenditures. thereby encouraging aggregate demand. Encouraging aggregate demand has led to an increase in inflationary and production pressures, as a result of which the central bank reacts to it with a contractionary monetary policy. Also, the price of housing is the Granger causality of production in half of these countries. The results of the impulse response function confirm the increase in the general price level in all these countries after the housing demand shock. Also, in seven of these ten selected countries, the housing demand shock has caused an increase in production and inflation. The central bank reacts to shocks by increasing the volume of money.

In general, this evidence shows that housing prices are an important element in the functioning of macroeconomic variables. In the country, no study has been reported on the relationship between inflation and housing prices or efficiency.

## Deflation in housing economy

After more than a century of Iran's economy relying on oil export income and despite the design of visions and the implementation of development plans, despite the structural weaknesses in the economy also, all macroeconomic experts acknowledge the gap between the current state of the country's economy and its ability to be achieved, at least in the Middle East region. The economic crises that have faced the world economy with a challenge every time in

the previous decades have always caused many shocks to Iran's economy as well. In spite of all the various influences and even in

different directions on Iran's economy, there is a certain and definite common factor in all crises, and that is the shadow of an uncertain economic atmosphere on economic activities. This uncertainty about the economic conditions, combined with speculative motives and with the help of huge oil revenues, every time it enters the asset market and creates a price bubble in the asset market, the country's society has faced an economic and social challenge. It can be safely said that the housing market has been one of the hottest speculation markets in recent decades in Iran's economy, which has been well nourished by the combination of oil revenues and economic uncertainty and it has become one of the most attractive speculative markets in Iran's economy. Housing prices, unlike inflation, do not have an increasing and linear trend, but its curve has a stepped trend that oscillates around inflation. The important result of these developments in the housing market from 1370 until now is the subordination of the housing price index to the inflation index with a different and staggered pattern, so that in the long run the inflation index and the housing price index are approximately equal to each other. The reason for the large role of this sector in the life and economy of the people and the fact that the share of housing costs in the household budget, which is more than 30%, the government can avoid the unreasonable increase in housing prices by monitoring and implementing policies with targeted control.

Along with continuous inflations and uncertainties governing the atmosphere of economic activities, it can be boldly claimed that the housing market has been one of the most unstable sectors of Iran's economy in the last 15 years and it has always been the focus of the speculative motives of many investors, this is despite the fact that macroeconomic stability has always been a special concern of economists and is considered one of the important policy goals in any economic system, and most economists believe that the major losses of inflation act through creating uncertainty.

Among the types of assets, housing is considered one of the most important socio-economic components in a country, which can be

said to have a direct and unmediated effect on the level of public welfare more than other assets. In most countries, the building includes more than half of the fixed capital formation of the gross domestic product, in which the share of housing alone is about 20 to 50 percent.

The share of housing in the GDP varies from 10 to 20 percent in different countries of the world. Surveys show that the activity of about 120 courses is related to the housing sector. However, with all the measures taken in the public sectors and despite the government's actively policies in the housing sector, undoubtedly, housing continues to be a radical socio-economic problem in Iran society, with constant ups and downs and the creation of a speculative market, which has swallowed huge capitals and the production sector of the country has been deprived of many financial capitals. The reality of Iranian society acknowledges the severe uncertainty governing the economic environment, among which the uncertainty of inflation has always been in the pioneer. Therefore, due to the importance of the subject and due to the lack of research in this field, in this research, by studying the housing sector, the influencing factors on the housing market have been examined and identified in order to determine the extent of the impact of macroeconomic factors on the price of this asset with a special look at the uncertainty of inflation.

In the economic literature, inflation is considered one of the most important factors affecting the changes in asset prices, most economists believe that the main effects of inflation on the economy act through the channel of inflation uncertainty. Clapp (1993) states that uncertainty about inflation has two types of economic effects and affects the welfare of economic agents. The first effect is related to the decision-making stage; This means that it causes the adoption of different economic decisions by companies and consumers compared to the state of absence of uncertainty. Analysts attribute

these effects to the foresight of economic decision makers; Because economic agents make decisions based on the expected inflation.

The second group of economic effects is related to the stage after the decision is made, when the actual inflation is different from the expected inflation which is called hindsight effect and causes the transfer of resources between economic units. The foresight effects of inflation uncertainty can work through three channels and affect the economy.

Inflation uncertainty affects financial markets through increasing long-term interest rates. Long-term interest rate is an important variable that determines the return required by investors. Uncertainty of inflation increases the risk in all contracts in which payments are specified based on nominal amounts. Long-term loans are not excluded from this case, and the increase in inflation uncertainty increases the risk of a long-term fixed interest rate. As a result, lenders request a higher interest rate to cover this additional risk, which means an increase in the long-term interest rate which leads to less investment by producers in machinery and equipment and consumers in housing and other durable goods and ultimately has a negative impact on investment.

Inflation uncertainty causes uncertainty about important variables in economic decisions. Inflation uncertainty affects the economy by creating uncertainty about interest rates and other economic variables. When the payments of a contract are not indexed to inflation, the uncertainty of inflation causes the true value of future payments to be uncertain. The spread of uncertainty about economic variables disrupts the making of informed decisions by producers and consumers and reduces economic activities. When producers are uncertain about wage rates, taxes, and interest rates, they may delay their economic decisions until the uncertainty is resolved.

Finally, inflation uncertainty encourages producers to spend financial resources to avoid related risks. In the uncertain conditions of the inflation rate, risk-averse economic agents come to reduce the risk by spending resources to predict the future inflation rate and

estate agencies spend their financial resources to avoid risks caused by future inflation.

For example, when inflation is high, they may spend more resources on improving inflation forecasts and in addition, some companies may use Hedging financing tools to protect themselves against unexpected inflation. Both hedging activities and improving forecasts divert resources from production goals. While these tools reduce the risk of unexpected inflation, they do not eliminate them completely.

Among macroeconomic indicators, GDP is of particular importance; Because it is not only used as the most important indicator of economic performance in analyzes and evaluations, but many other economic variables play a role in its calculation and estimation. Housing prices have a positive relationship with real GDP. An increase in GDP growth increases real housing prices. Housing prosperity is associated with a period of high GDP growth and its price decline is associated with GDP growth stagnation. The decrease or (increase) of GNP affects the variables of the housing market indirectly through the change of intermediate economic variables, disposable income and employment, and the level of prices. Theoretically, the increase in income due to the implementation of expansionary financial policies affects the supply and demand of housing, and the change in supply and demand of housing will also change the equilibrium price of housing. Also, these economic factors may affect some demographic variables which tend to affect the construction of residential buildings. Governmental policymakers may also affect GNP by increasing or decreasing government spendings through transfer payments or purchases of goods and services. Assuming constant tax rates, an increase in government spending will lead to an increase in GNP. As mentioned earlier, the change in GNP may lead to a change in start working residential construction. Thus, with the increase in income, it is expected that residential investment and the number of start working residential units and as a result the supply of housing

will increase. Also, with the increase in income, the demand for housing also increases, so with the increase in the supply and

demand of housing following the growth of the national income, the price of housing may increase or decrease or remain constant. The increase in housing prices can be related to high liquidity in the financial system. Liquidity is the sum of money and quasi-money. The widespread growth of money based on liquidity shocks of excess money or credit that is not compatible with long-term price stability is called liquidity shock. One of the stimulating factors of housing prices is price growth events that lead to housing price bubbles and financial instability. In this context, it is very important to circulate the amount of money according to the real needs of the society and to establish the optimal amount of liquidity. The most important theory about the positive relationship between liquidity and asset prices and especially asset price bubbles is the monetarists theory. The increase in the general level of prices has different effects on the effective demand of housing. Its negative effect appears as a decrease in people's purchasing power and its positive effect is that when the households observe the growth of prices in order to maintain and stabilize the value of their assets, if the amount of risk and return on investment in other economic activities is not optimal, they move towards the construction and purchase of residential units. But the effect of this increase in the general level of prices on housing prices depends on the type of inflation in different years. Thus, a sudden increase in the general level of prices with an increase in the cost of housing production will reduce investment in housing and increase the price of housing, but a chronic and long-term inflation will reduce this effect.

When households take out a mortgage, the loan affects demand and labor through two potential channels. In the first channel, not only the real interest rate but also the nominal interest rate can affect housing demand. Higher nominal rates even if the real interest rate remains unchanged, current cash flow reduce the difference between income and expenditure. This reduction, in turn, reduces

the demand for housing because the flow of interest payments is diverted to the present due to higher predicted inflation. A decrease

in cash flow reduces the amount of mortgage that households can obtain against a loan. So the size of the house they can buy becomes smaller than before (before the cash flow was reduced). In the neoclassical framework, only the long-term interest rate can affect housing demand.

And it doesn't matter if households have a variable or fixed rate mortgage because the interest rate related to the cost of using capital is still the long-term interest rate. That's because the variable interest rate is actually the average of variable interest rate expectations over the period of home ownership. The second channel shows that if the households have the loan pressure under control, then it is important for the households to have variable mortgage rate. In this case, changes in short-term interest rates can affect housing demand. If a high proportion of households buy houses with variable rates, then an increase in short-term rates, even if long-term rates are unchanged or have a slight increase, can significantly affect housing demand. Considering that variable mortgage rates tend to move with short-term rates, monetary policy makers use variable rates as a policy tool. Therefore, in countries where a higher proportion of households have variable rate mortgages, they react more to monetary policy changes. Oil prices and oil revenues of the country are closely related. Oil income is the product of oil price and oil export. Assuming the amount of oil exports is constant, the oil income will be affected by the price of oil. In order for oil exports to be stable, it is necessary that the total production and domestic consumption be constant or that the increase in production be considered to the extent of the increase in domestic consumption. According to the contents that have been mentioned and the assumption of constant oil exports, the increase in oil prices will have several important effects on housing prices. First, it affects the purchasing power of housing. Since oil income has a high share in the government's receipts, and also the received share from the sale

of oil is significant, an increase in the price of oil will increase the purchasing power of housing, and its decrease will

lead to a decrease in the purchasing power of housing which will increase or decrease the price of housing.

# Chapter Twelve

## The reference of economics in housing in the international field

Every year, a large number of governmental projects or plans are presented to house poor people in different communities, among which countries such as Malaysia, America, Canada and European countries can be mentioned.

Many European countries, in their public and social housing policies, have considered the social and economic impact of housing plans and materials in different dimensions, to ensure that the units are provided cheaply enough for low-income groups and in this context, the class gap in the society should be minimized.

In successful countries, in addition to the fact that the goal of policies is to meet human needs to have the legal right to have a suitable shelter. In many of these plans, environmentally friendly systems have been designed and implemented to reduce energy consumption and water and electricity bills.

The idea of creating environmentally friendly and sustainable housing is a not-so-old idea that in some economically advanced countries such as Belgium, old factories and buildings have been converted into houses with shared spaces.

In addition, the creation of governmental or public and social housing is the concern of most countries, especially developing countries with large populations, in order to be able to make more people homeowners in such public projects while maintaining their human dignity and security due to the lack of land and space. These houses, which are called social housing units, have a modern design and some even look futuristic. Considering that housing is one of the main economic-social needs of people in different societies, including Iran, we examined the actions of different governments in this area.

## Governmental housing schemes in Malaysia

According to media reports, the housing policy in Malaysia can be divided into four stages:

1. Program for providing housing for the needy and the poor people (1971-1985)
2. Market Reform Program (1986-1997)
3. Program for clearing slums and marginal structures (1998-2011)
4. Governmental affordable housing (from 2012 until now)

Before the 1970s, government employees were the main target of housing provision. But today, by following the different stages of the housing policy, the government's target is the hard poor, the B40 group (completely low-income group) and the M40 group (middle-income group).

Over the years, the federal and state governments in Malaysia have introduced new schemes to help these people own homes at really affordable prices. Among the first projects, the two projects "Malaysia People's Housing - Skim Perumahan Rakyat1 Malaysia" which was introduced in 2011 and "Federal Territory House - Rumah Wilayah Persekutuan" which was presented in 2013 and now known as "Provincial Residence - Residensi Wilayah", It can be mentioned.

In Malaysia, at least seven governmental housing schemes are available for the low- and middle-income groups, namely B40 and M40 groups. Like SPNB's People Friendly Home Scheme,called Rumah Mesra Rakyat (RMR) and Rent- To- Own (RTO) scheme. Also, in Malaysia, which has 13 states, each state government has also provided an affordable housing plan to provide opportunities for needy and low-income people to own a home.

In Malaysia, at least seven government housing schemes are available for low- and middle-income groups. For example, the state of Selangor has introduced the Buyer Friendly Housing Scheme (Rumah Selangorku - RSKU). In the state of Johor, houses are offered at very attractive prices in the form of the Johor Affordable Housing Scheme.

In the states of Malacca and Perak, houses with a lower price than the housing market rate have been offered to low-income people through the projects titled "Affordable Houses Malacca - RMM" and "My Silver House - Rumah Perakku". In addition, in other national programs, the efforts of the Malaysian government to meet the housing needs of low-income groups have intensified.

Kuala Lumpur has also put other programs on its agenda, which include providing assistance and financial facilities for the needy to get a house. The goal of these programs is to ensure that poor and hardworking families can build or repair houses so that they have a safe and comfortable place to live.

## Social housing

In England, social housing refers to council housing. This housing is for low-income people who need it the most. These houses belong to social owners or an active community in the housing sector. These units are rented to tenants at a lower cost, and the owners must register in the Social Housing Regulatory Organization. These houses are cheaper and offer better security than private houses.

Public housing is government-subsidized housing schemes or projects in various countries, usually funded by federal and local governments. The aim of these projects is to provide housing for people whose income is below the average national income. Public housing projects mainly include apartments in the suburbs and the qualification of residents or buyers to use this type of housing is determined by officials and authorities in this field.

## Expansion of social housing in different countries

Different countries have social housing systems. This assistance is provided by the government to people who are experiencing financial difficulties or social pressures. In many countries, public housing is also known and provided as public housing or social housing, and central government organizations are directly involved in providing this housing. Belgium, Canada, Denmark, South Korea, Luxembourg, Malta, New Zealand, Portugal, Romania and Slovenia are among the countries with social housing systems.

### 1. Austria

According to media reports, Austria has the most successful housing system in Europe. Its capital "Vienna" has one of the strongest collections and systems of social housing in the world. The Austrian government in Vienna has provided more than 100,000 affordable and high quality housing units to low-income families by providing subsidies to low-income families and developing the public transportation system. In such a way that the cost of housing in Vienna is about 25% of the income of these people and they have been supported to a large extent by the inflation of housing prices.

Austria in Vienna has provided more than 100,000 affordable and high quality housing units to low-income families by subsidizing low-income families and developing the public transportation system. According to reports, in 2018, 220,000

urban housing units and 200,000 subsidized housing units were delivered in Vienna.

The important point is that decentralized housing policies have allowed Austria to control and manage the housing market.This issue has also caused flexibility and maintaining a reasonable price in the housing market. The government is the largest landlord of houses in Austria by providing 220,000 rental apartments. But the government has facilitated home ownership for its citizens by pursuing the policy of building social housing for both rental and subsidized sectors based on national tax contributions and regional budgets. Also, the government has annually allocated more than 450 million Euros for its housing and house building policies.

**2. Denmark**

The general rule for housing development in Denmark is that 25% of the built residential units should always be cheap so that people from different levels of the society can use it. A fifth of the Danish population lives in complexes and apartments or affordable houses. According to government policies, 25% of new affordable housing should be built in Copenhagen, the capital of this country, to provide homeless people, and a third of these units should be allocated to socially vulnerable people.

The general rule for housing development in Denmark is that 25% of the built residential units should always be cheap so that people from different levels of the society can use it. This policy has largely prevented the polarization of society in the field of housing.

**3. Netherlands**

This northwestern European country has the highest ratio of social housing in the European Union. Vathorst is one of the urban development cities in Amersfoort, the Netherlands. Its population is close to 140,000 people and it is included in the Netherlands "VINEX" house building program. According to this program, by 2023, 11,000 houses will be built for 30,000 residents with social facilities.

Builders and architects must maintain the conditions and high standards of construction in the implementation of their housing plans; Otherwise, they will not be able to access governmental construction projects. Also, 30% of the houses in the city of "Wathurst" are affordable apart from subsidized rent or for sale.
The purpose of this program is to create social balance and the issue of social sustainability is considered by offering a range of price tables for different income groups in settlement policies.

**4. Ireland**

Dublin, the capital of Ireland, is the third most expensive place in Europe to build residential units. The cost of construction in this city is higher than London and Zurich in England and Switzerland. In addition, housing costs are generally higher for tenants than for owners, except for low-income households. But the Irish Rental Accommodation Scheme (RAS) has been the government's move to house low-income people or help them rent a home.
Rental Accommodation Scheme (RAS)
Ireland's approach to affordable market rents is private renting funded by central government. Based on this plan, local authorities follow up economic issues with private owners. In other words, in this plan, authorities or related organizations will be responsible for renting the property and collecting the rent and owners will be offered accommodation for up to 10 years at a discounted rent, a rate that is 8 percent below market rent.
This scheme also allows low-income tenants to pay part of their rent, which varies according to their income (rather than housing allowance). This conditions provides a better deal for tenants looking for private properties. Much of Singapore's population lives in governmental and developed housing due to astronomical property prices.

**5. Singapore**

Much of Singapore's population lives in governmental and developed housing due to astronomical property price This small

but developed Asian country has used the two tools of the Housing and Development Bureau (HDB) and the Central Provident Fund (CPF) to house its citizens.

Since the establishment of these two centers, more than one million high-rise residential units have been built in Singapore, which accommodates nearly 90% of the beneficiary population. In 2006, the Singapore government introduced an additional CPF housing allowance scheme up to S$80,000 Singapore to help low-income families with the goal of owning their first home. In 2013 and then in 2015, the neighboring housing allowance scheme was presented. In this plan, the goal is to help families buy an apartment to live together or close to each other.

**6. Spain**

According to the Organization for Economic Co-operation and Development (OECD), social housing accounts for less than 2% of all homes in Spain. In February 2021, Spain's left-wing coalition government made the construction and supply of "affordable housing"in its policy priority. In this plan, the affordable housing price was set at 150,000 euros against the average income of 15,000 to 25,000 euros.

**7. Switzerland**

The policy of housing and urban planning in Switzerland is that one-third of the built and supplied housing should be affordable. In Switzerland, although only residents of this country are allowed to own residential property, but having housing with rent is more flexible for applicants. According to information published in this country, which is known as the second home of diplomats, foreigners are only allowed to stay for 6 years.

The policy of housing and urban planning in this small but developed European country is that one-third of the built and supplied housing should be affordable. Also, the government's

plan is that 20% of apartment units should be provided to people who live with government assistance.

## Conclusion

According to the mentioned cases of the approach of the countries in the housing sector, the role of most governments in this field is to fulfill the regulatory task to regulate the housing market in such a way that the needy and low-income people not be deprived of the right to have a safe and high-quality house and shelter with high standards

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**Dr. Abozar Shahpari**

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