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REAL ESTATE DEVELOPMENT PROCESSES AND ITS FINANCIAL REFLECTION ON THE HOUSING MARKET

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Abstract: **Real estate property is defined as a land and everything which built on land. People began to desire better living, working, resting places, as the result of changes of live standards. These needs had begun with living areas, after that real estate is presented in different types to meet people's needs.**

Real estate development, consist of a lot of activities which are interested in land development and building construction. Real estate development is a multifaceted business. This complicated process involves much input from a wide range of professionals. Real estate development process because of being complicated, demands an extensive investment analysis.

In this study, a research was conducted on how real estate development processes affect the housing market. The research phase started with the determination of existing conditions. At this stage, market conditions, economic conditions, social acceptances, good and constraining aspects of the land, and regulatory factors were investigated. During the analysis phase, the opportunities offered by the land, its constraints and costs were analyzed. In the synthesis phase, all the results were brought together to create a functional plan. The synthesis process ensures that unworkable ideas are eliminated and an original idea is created. All models were created because the real estate development process has a complex structure and carries with it major risk factors. Risks in business, management, financing, politics, inflation, liquidity and interest rates are seen as risks of great importance in the real estate process.

Keywords: **Real estate, construction, residential buildings, housing market, finance.**

I. INTRODUCTION

There are many investment vehicles available today. Investment instruments are generally classified as movable (movable) and real estate (immovable). Real estate, which is defined as a land and everything built depending on the land on it, has always been accepted as a solid investment tool. Real estate is fixed and tangible. In the legal definition of real estate, the existence of the following concrete components is mentioned;

• Land,

• Natural inseparable parts of the soil such as trees and minerals,

• Additions such as buildings and landscaping attached to the land by people (Apraisal Instutite, 2001).

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For this reason, a land and all kinds of buildings on it are also included in the definition of real estate.

The real estate sector has started to have a complex structure, from the past to the present, in order to meet all the needs of people.

Real estate development projects have started to turn into big investments that are formed by the combination of physical, social, political, environmental and financial issues and have a structure that keeps up with technological innovations.

Many models have been created for the regular operator of the real estate development process, which has become complex. All of these models actually operate through three main categories—research, analysis, and synthesis studies.

The research phase begins with the determination of current conditions. At this stage, market conditions, economic conditions, social acceptance, good and constraint aspects of the land, regulatory factors are investigated.

In the analysis phase, the opportunities offered by the land, its constraints and costs are analyzed. Analyzing the opportunity and constraint conditions is considered necessary for the progress of the project.

In the synthesis phase, a functional plan is created by bringing together all the results found. The synthesis process ensures that ideas that cannot be implemented are eliminated and an original idea is revealed.

All models were created because the real estate development process has a complex structure and carries with it great risk factors. Risks in business, management, financing, policy, inflation, liquidity and interest rates are seen as risks that have great importance in the real estate process.

In real estate projects that can be considered as an investment, the feasibility of the project decision-making process should be carefully studied in order to identify risks and create appropriate strategies. Because these decisions will affect the future performance of real estate investment. Errors in the decision-making process create the possibility of returning as a low profit, and moreover, as bankruptcy.

In our country, there are many unfinished projects that have been made without a feasibility study and without considering the economic and political situation in the country. Now, companies in the development process have started to learn from these mistakes and have begun to understand that feasibility analyzes should be done in the decision-making process in order to have better expectations in investments.

The construction industry in our country has started to consider the examples in the world and to realize projects with a more professional perspective. The real estate industry is in a constant state of development. Projects produced with the build-and-sell system in the past have become complex in order to offer the right product to the conscious consumer, taking into account the demands of the users. In the real estate development process, the development company's creation of appropriate strategies has begun to be seen as the key to success

II. GENERAL CONCEPTS ABOUT REAL ESTATE

2.1 Description of the Property

Real estate can be defined as a land and everything immovable built depending on the land on it, which cannot be taken from its location to another place. Real estate, which is accepted as an investment tool, can be considered in two groups as developed or undeveloped. Undeveloped real estate is only considered a piece of land, that is, land without any buildings on it. Developed real estate can be considered as the presence of any structure on the land (Gülsün, 2002, Foan,.2003).

Land considered as undeveloped real estate forms the basis of people's social and economic activities. Land is accepted as both a tangible physical asset and a source of wealth. Since land is of great importance for society and life, it has been an important issue for disciplines such as law, economics, sociology and geography. Each of these disciplines focuses on a different concept of real estate.

Law focuses on issues such as ownership and use of land in relation to real estate. In the economy, land is considered as one of the four means of production, together with the subjects of labor, capital and entrepreneurship. In sociology, on the other hand, land is regarded as a shared resource and a commodity that can be owned, traded and used by individuals. In geography, the physical elements of the land and the actions of the people who use it are studied.

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Lawyers, economists, sociologists and geographers list the characteristics of the land as follows:

• Each parcel of land is unique in terms of location and structure.

• The ground is physically immobile, it cannot be moved.

• Soil is permanent, it does not get old.

• Land supply is limited.

• Soil is beneficial for people.

As a result, land can be defined as a physical asset that contains property rights and that these rights can be legally limited for the benefit of society and that can be measured in terms of economic terms and have exchange value.

The land can be used for many purposes, for example;

• Agriculture,

• Trade,

• Industry,

• Settlement,

• Entertainment.

The factors affecting the formation of the above uses on the land are as follows:

sortable;

• Climate,

• Topography,

• Distribution of natural resources, population centers and industry,

• Changes in economy, population, technology, culture (Foan, 2003).

Structures to be built for the uses to be created on the land, use and construction

According to their purposes, they can be grouped as follows;

• Residential Buildings; Single family houses - villas, twin houses, row houses, low or high-rise apartments, etc.

• Commercial Buildings; Office buildings, shopping malls, hotels, motels, wholesale places, office buildings, etc.

• Industrial Buildings; Factories, warehouses and workshops etc.

• Special-purpose structures; schools, airports, public buildings, exhibition centers, entertainment centers, sports fields, etc.

2.2 Concepts Related to Real Estate Value

For this study secondary data has been collected. From the website of KSE the monthly stock prices for the sample firms are obtained from Jan 2010 to Dec 2014. And from the website of SBP the data for the macroeconomic variables are collected for the period of five years. The time series monthly data is collected on stock prices for sample firmsand relative macroeconomic variables for the period of 5 years. The data collection period is ranging from January 2010 to Dec 2014. Monthly prices of KSE -100 Index is taken from yahoo finance.

Value can be defined as the monetary value of a particular property, good or service to the buyer and seller at a given time. Establishing the exact value is a highly complex subject and differs from person to person. Because the concept of value is considered as a phenomenon that changes according to the point of view (Foan, 2003, Alp, and Yılmaz, 2000).

Value can mean many things in the real estate industry. Value concepts that may be important in real estate development are considered as market value, use value and investment value.

2.2.1 Market Value

Market value is defined as an estimated amount at which a willing buyer and a willing seller can sell without influence and self-interest, as a result of accurate marketing and without knowledge and pressure from both parties.

This value, which is also defined as the normal trading value, may not be expected to occur in every trade. In order for it to occur, the parties must be willing, independent and have sufficient knowledge of the value of the immovable (Gülsün, 2000, Açlar, and Çağdaş, 2002).

The formation of the market value is accepted if the following conditions apply.

sees.

• The buyer and the seller act reasonably,

• The parties have full knowledge of all matters related to the real estate and act in a way that will provide them with the maximum benefit,

• A reasonable time is given for the sale of the real estate,

• Payment is made in cash and similar items,

• The financing that may be required during the purchase of the real estate is carried out at market interest rates (Alp and Yılmaz, 2000).

2.2.2 Value in Use

Value in use is defined as the value of a particular good for a particular use. It is the value that treats a property as it is used, regardless of its alternative uses. While determining the value in use, the value that the real estate adds to the business of which it is a part, the most effective and efficient use of that property or the values to be obtained from its sale are not taken into account.

2.2.3 Investment Value

Investment value is defined as the conversion of the profit to be obtained from the future income of the real estate to the present. Investment value, with the assumptions of the investors, represents a value that transforms all of the future benefits into the present when the real estate is owned. Investment value that differs from person to person and according to the characteristics of the investment made in the real estate; It relates to various economic variables, the future return of the property, investors' assumptions, the future existence and return of the property, the holding period, the selling price, tax, current financial condition, and all other factors that affect its expected future net benefits.

2.3. Real Estate Market Concept

The real estate market is defined as the interaction of individuals exchanging property rights for other assets such as money. Participants in the real estate market may consist of:

Buyers, sellers, tenants, lessors, mortgage lenders, mortgage lenders, developers, builders, managers, owners, investors, real estate advisors.

Real estate markets are divided into categories depending on the type of property and to appeal to different market participants. Properties can be grouped as residential buildings, commercial buildings, industrial and special-purpose buildings.

2.3.1. Real Estate Market in Turkey

The real estate sector in Turkey has always been regarded as a long-term investment tool.

is seen. The main reasons for this are

• Distortions in the social security system,

• The supply cannot meet the demand in such regions due to the intense migration to big cities,

• Inability to produce areas open to development,

• The public's lack of confidence in new financial instruments,

• Use of real estate investment to protect against inflation,

• The official values are lower than the real values and are not real, therefore it is difficult to determine the income to be taxed,

• Real estate being a good tool for laundering unregistered income,

• It is the use of real estate as collateral against credit (Gündüz, 2001).

Interest in real estate has declined in some periods. In the 1980s, savers shifted their preferences to short-term investment instruments in order to evaluate their savings. Again, a similar period was seen as a result of the 1999 earthquake in our country. In this period, the real estate sector came to a standstill, and people's confidence in real estate was shaken. In recent years, the interest in the real estate sector has increased again due to factors such as overcoming the economic crises in our country, the decrease in the returns of alternative investment instruments, the introduction of the mortgage system, and the continuation of economic and political stability.

The sector, which experienced a long period of stagnation after the earthquake process, became a popular investment tool again after the second half of 2004, and there was a big boom in housing projects during the construction process.

The real estate sector in Turkey; Until now, it has been able to develop within the framework of the limited possibilities of public institutions, cooperatives and construction companies. The current housing shortage, the rapid impact of metropolitan cities from change, lack of urban planning, zoned land and infrastructure planning, the inadequacy of statistics on the real estate sector, the lack of adequate coverage of real estate in academic studies at universities, illegal construction, slum areas arising from uncontrolled zoning movements in metropolises are the main areas of the real estate sector. among the problems. Similarly, the lack of supervision during the project and production in construction production creates problems. In addition, due to rapid population growth, renewal demand, and employment problems, migration from rural areas to cities affects the sector in a negative way (Sur, H.). The unplanned construction and squatting in big cities, especially in Istanbul, are at high levels. The inability to respond adequately to the increasing demand for zoned land in big cities, and especially to the need for housing, has led to irregular and unplanned developments, and unqualified individuals and organizations to engage in this sector (Kodal, 2000).

In this period, which is in the process of entering the European Union, it has become a necessity to turn to a real estate sector with high standards and institutionalized (Sur, H.). All actors who do not keep up with this process and cannot think long-term are doomed to be eliminated. In the sector, the consumer profile is changing as well as the producer. Conscious consumers are at the forefront in the upcoming processes. Concepts such as transparency, professionalism, institutionalism, quality, and standardization that have not been attributed to the real estate sector until now will gain more importance in the coming period (Kodal, 2000).

As a result of the improvement observed in the economy, it has come to a situation where plans are made for five to ten years, from a structure that could not see asking for three months six months ago. Long-term stability is essential in the real estate sector, which is long-term and less liquid than other investment instruments (Kodal, 2000).

III. GENERAL CONCEPTS ABOUT REAL ESTATE

Real estate, defined as immovable property, is also an important investment tool. Real estate projects such as residences, shopping malls, industrial facilities and business centers, whose manufacturing process differs from other manufacturing, are also an important investment tool for real and legal persons with large amounts of capital. The reason for this is that real estate investments are very comprehensive, multi-featured investments and require teamwork. The fact that there are many factors affecting the investment increases the profitability of the investment. Since each real estate project is different from each other, it requires its own unique investment model. Other features of real estate investments are that they require long-term and substantial financing and labor, as well as being organic and open to change at any time during the project.

Land, capital, information and target audience parameters should be carefully examined before the investment and planning should be made accordingly (Cadastral Law No. 3402)

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As in all investments, a planning is made in line with the demand in real estate. Another starting point is the question 'What should be the best and highest use of the land?'. Each land has its best and highest use in a certain time period (Şensal, and Doğançay, 2002)

The Real Estate Developer is the person who carries out all the stages such as making the whole organization, making the investment decision, feasibility, market research, planning, finding the capital, from the idea of a real estate investment to turning this idea into a product. Depending on the size of this project, it may be a single person or a team. The development process that emerges with a thought; feasibility studies on this idea; contracts with various individuals, institutions and organizations; initiation and continuation of construction; can be summarized as the operation period after the end of construction. Although the development steps are listed in this way, there may always be sub-branches and sequence changes within these steps due to the organic structures of real estate investments. During the continuation of the project, cost and profitability analyzes are made at each step and it is tried to avoid any negative deviations from the financial model that was created at the beginning (Şensal, and Doğançay, 2002., Seçkin, 1998, Gülsün, 2002).

3.1. Required Components of a Real Estate Development Project

For a development project to be successful, many elements must be fulfilled or complete. These; location, planning, market timing and setting the right marketing targets, current financial strength and financing structure, harmonization of construction costs and planned schedule, good governance, a healthy economy, the art of compromise, quality services, good behavior and luck factor.

3.2. Actors Involved in the Real Estate Development Process

In the development process, many actors from different sectors need to work together for a product to emerge. The real estate development process requires teamwork and includes an interactive and dynamic process that requires interdisciplinary coordination. In this process, working with consultants and groups who are experts and knowledgeable about the proposed project provides a great benefit for the project.

3.2.1 Real Estate Developer

The real estate developer is the person or institution that coordinates the development process. The real estate developer is the main player involved in all phases of the project from the beginning to the end. That is, real estate developers are the coordinators of activities that turn ideas on paper into realized projects.

After the developer finds the land, he determines his target audience and project. Then, after meeting the legal and financial requirements, it finishes the construction for the identified use and completes the process by renting or selling it (Mutluay,1992, Housing Authority, 2004).

In the real estate market, developers can be classified according to their expertise in a particular subject.

Land Developers; They work to lift the construction ban on land parcels and make the land developable. Then, they market the land parcels with completed infrastructure to other developers or end users.

Speculator Developers; These types of developers develop for their own benefit. Their aim is to gain value over real estate. If speculators are to hold their own property for a long time, they design the property to provide low operational and maintenance costs.

Commercial Builders; these types of developers develop the property for sale during or after construction. They sell the property they have built at a low selling price without finding a tenant, or at a high price by guaranteeing to find a tenant.

Paid Developers; such developers deal with the property owner and manage the development for a fee. The developers studied in this group have experience at all stages of the development process.

Developers Renovating and Transforming; this type of developers, on the other hand, do development work in the style of renewing or changing the function to add value to an existing property (Alp, and Yılmaz, 2000).

3.3. Real Estate Development Process

The real estate development process is based on a complex and interdisciplinary study. The real estate development process differs according to the type of product the developer invests in, the environment in which the development project is carried out, and the company organization (Yılmaz, 2000).

In order to make an investment decision in the real estate development process, one of the components of land, information and customer, capital must be mastered. If the developer owns the land, the supply and suitable uses for the land need to be investigated. If the developer has the knowledge or the customer, then the demand needs to be investigated and accordingly land suitable for a particular use has to be found. This situation can be opened as follows;

• Investigation of alternative uses for a predetermined plot,

In this case, the supply in the market is important. “What is the best and well profitable investment for land?” It starts with the question. At this stage, the best use is decided by market research and the absorption rates of this product in the market are examined. The investor can choose to purchase the land in advance and wait for the value increase.

• Finding suitable land if there is a predetermined use,

At this point, the determining factor is demand. With the market research to be done, information about the current uses in the market, current users - buyers, tenants - is obtained. “What kind of product is needed in the market?”, “What type of investment is in demand?” answers are sought (Alp, and Yılmaz, 2000, Mutluay, 1992.).

Various models have been created to help the complex structure of the real estate process work in an orderly manner. One of these models is the one created by Miles, Berens and Weiss. By referring to this model, the operation of the real estate development process is desired to be detailed. According to Miles, Berens and Weiss, the real estate development process consists of 8 main parts.

1) Generating the Idea,

2) Developing the Idea,

3) Feasibility,

4) Contract Negotiations,

5) Formal Contract,

6) Construction Phase,

7) Completion and Official Opening,

8) Property, Asset and Portfolio Management.

3.3.1. Actors Involved in Real Estate Development Process in Turkey

Real estate development in Türkiye; land, housing, shopping malls, organized industrial zones, office and mixed-use etc. available in development.

While cooperatives and contractors were involved in the real estate development process, today, real estate development companies, public institutions and service organizations are the main players.

Companies engaged in real estate development are “Construction Companies, Holdings, Joint Stock and Limited Partnership Companies, partnerships established for a single project (Joint Ventures) and REITs (Real Estate Investment Partners)”.

Public institutions are National Real Estate, General Directorate of Land Registry and Cadastre, Mass Housing Administration (TOKİ), Privatization Administration, Undersecretariat of Real Estate (Housing), Metropolitan Municipalities and Local Municipalities.

Apart from these organizations, there are service organizations that take part in certain periods during the activities of real estate developer companies, which can be established within the company or can be benefited by outsourcing.

These organizations

• Design / Production Teams,

• Real Estate Service Firms; Market Consultants, Appraisers,

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• Lawyers, Real Estate Brokerage and Marketing Companies, Public Relations / Advertising Agencies, Building Operation and Maintenance companies,

• Lenders (usually banks) and financial institutions (Yılmaz, U. M.)

IV. FEASIBIKITY ANALYSIS IN REL ESTATE DEVELOPMENT

Real estate investors take risks in the process of anticipating the return of their invested money. In order to calculate the returns on an investment, certain assumptions must be made beforehand. Because depending on this, the investor will decide whether to participate in the project or not. For this reason, feasibility studies carried out before the investment are of great importance.

A real estate project is defined as feasible if, for the chosen direction of movement, there is a reasonable probability of achieving the clearly defined goal within certain constraints and available resources.

4.1 Description of the Feasibility Analysis Process

A feasibility study includes executive summary, market analysis, preliminary drawings, cost calculations, funding sources. This information forms the content of the market analysis. The next process is the financial feasibility study.

The general stages in the feasibility analysis process are as follows;

• Identification of the real estate and its immediate surroundings,

• Demand analysis, Market Analysis

• Supply analysis,

• Determining the areas to be sold/leased,

• Cost analysis,

• Financing cost,

• Financial analysis,

• Evaluation (Schmitz, A., and Brett, D. L.).

Market analysis is an important part of feasibility studies. Market analysis includes defining the real estate and its immediate surroundings, determining the demand and supply. The results and assumptions at the end of the market analysis are used in financial feasibility studies. Market analysis is not just an ongoing process within the feasibility process. Market analysis studies should be continued during the development period and management stages of the project.

Market analysis is important in determining the state of demand and supply. Developer; He should use his time and resources well, from the start of the project to the emergence of a successful project, to select suitable land for the project and to sell the product in the market.

The major market decisions of the developer affect the purpose, location and size of the project. Every area in the market should be analyzed. These; It can be residential, industrial, commercial and mixed use areas. The questions that the developer wants to be answered about the market according to the type of real estate to be developed are as follows:

• What are the regions where the market is active and suitable for investment?

• If a construction project developer had land in this area, what would he build on it?

• For which types of buildings can funding be obtained from financiers?

• What types of buildings cannot be funded by financiers?

• What are the popular desirable physical properties?

• Who are the other developers producing services in this field? What type of projects do they produce?

• How many units or m² of area have other developers planned to work on?

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• How many properties do other developers sell each month?

• Who are the biggest buyers of these real estates?

• In which periods do builders tend to buy land? (Schmitz, A., and Brett, D. L.).

Market analysis is done to learn the market where the project is located and the level of demands. Investment project decisions are those that predetermine the limits of the entrepreneur's future success. Making an investment decision without a sound market analysis may expose the developer companies to negative situations that will lead them to bankruptcy in the future (Büker, and Aşıkoğlu., 1995).

The issues that need to be examined in the market analysis process are as follows:

• Examining the economic growth potential of the region

The potential market should be in a positive growth trend. When a new project is made in a region with this trend, absorption should occur in a short period of time. This situation should be turned into an advantage for the project to be developed by working on the direction of growth.

• Absorption rates

If there are high vacancy rates in the considered region, there is excess supply in the region. In this case, the niche in the market needs to be determined.

• Examination of old leases and sales

Past and current sales and rental prices are of great importance in determining demand. For example, if the prices in the region have not changed at all, this indicates that the demand has not increased. If prices have fallen, there is oversupply. In case of an increase in prices, it can be mentioned that there is demand for the project type considered (Alp, and Yılmaz, 2000).

Market analysis, location, size, design, quality, features, target audience, sales strategies research, helps in decision-making.

Targeted objectives in market analysis studies:

• Determination of supply, demand and absorption rates in the determined geographical area,

• Defining the target audience and the product to be developed accordingly. In this process, the potential audience with the same demographic characteristics is determined. Obtaining market specific data; eg preferences of the targeted audience, lifestyles etc. is required (Şensal. and Doğançay, 2002).

Real estate market analysis research, both understanding the potential of the market and marketability as well as competitiveness analysis (Schmitz, and Brett, 2000.).

In demand analysis,

• Population, household, demographic surveys,

• Income, purchasing power,

• Occupational distribution, working population, employee analysis by sectors,

• Other factors (depending on the real estate project).

In supply analysis,

• Absorption rates (based on tenants and purchasers),

• Existing projects under construction and planning,

• Depending on the location, rental and sales prices of these projects and the quality of the product.

how they changed

• Characteristics and advantageous aspects of the projects,

• Rental and sale conditions and concessions are examined.

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4.1.1 Identification of the Real Estate and Its Neighborhood

In this process, the real estate is examined from a legal and physical point of view. Physical features include its size, geometric shape, lengths of facades, slope, geological features, location, distances to important centers (shopping centers, administrative center, study centers, recreation and entertainment centers, public transportation points, etc.), visibility, accessibility features. , environmental characteristics, structuring conditions are examined. The suitability of the project to be developed on the land in terms of its physical and environmental characteristics is tested.

After examining the properties of the real estate, its environmental characteristics are examined in detail. Environmental features, neighborhoods and district boundaries define the regions that affect the value of the land and the project. These limits may intersect with observable changes in land use or demographic and socio-economic characteristics. Physical features such as building types, street layouts, land structure, vegetation, and parcel sizes facilitate the definition of land use areas. Transportation arteries (highway, railway, main streets), river, pond, streams, hills, mountains and valleys can also be used to delimit the market area (Seçkin, 1998, Gülsün, 2002)

4.1.2. Demand Analysis

Demand research is of great importance in the market research process of a development project. In determining the demand, the first condition is to understand the structure of the market. In the first stage of demand related research, it is necessary to conduct market research that will reveal the market structure. The size of the market for the goods and services that will be produced with the realization of the investment, the development - of this market in the future, how much of the market will be effective with the investment to be made, the possible market share, the image and features of the goods and services to be sold in the market, what the selling price will be. determined by the information to be obtained (Büker, and Aşıkoğlu. 1995).

National, regional and local economic conditions affect demand. However, the most important factors affecting demand are local economic conditions and demographic data. Macroeconomic conditions affect consumer confidence and commercial investment activities. Real estate market analysis focuses on regional and local economic indicators. The demographic information of the consumer is the most important factor in defining how much of which product should be produced, which ones can be sold or rented quickly, which large ones are demanded, and which prices can be applied. In order to support the data obtained in the demand analysis process, it should be examined in the analysis related to the lifestyle [Şensal, and Doğançay, 20021].

4.1.3 Supply Analysis

Supply refers to the production and availability of the real estate product. In order to examine the supply, the characteristics of competing projects in the market should be examined in detail. Competitive projects include existing, under construction and planning projects. Care should be taken in the development and analysis of data on proposed or announced projects. Because some of these may not be built after all. Data on supply can be collected in many ways.

On-site inspection, Reviewing construction permits, implementation zoning plans and examining competing plots,

Interviews with real estate developers, real estate consultants and city planners (Gülsün, 2002)

The factors examined in the competitor projects supply analysis can be listed as follows;

Quantity and quality of current competition (existing stock),

New construction volume (competitor and complementary) – projects in planning phase or under construction,

Availability and price of vacant land,

Construction and development costs,

Currently offered properties (existing or newly built),

Owner's use or tenant's use,

Number of gaps and their reasons,

Conversion to alternative uses,

Special economic and environmental conditions,

Construction loans and availability of finance,

Effects of construction specifications, zoning regulations and other regulations on construction volume and cost [5].

4.1.4 Determination of Areas to be Sold and Leased

As a result of the market analysis, it is necessary to decide on the design of the project. In the light of the data found, the areas of the units to be built are calculated depending on the current zoning conditions and in line with the appropriate design purposes. Then, the areas to be sold or rented through these areas are determined and a sales program is prepared.

4.1.5 Cost Analysis

The costs associated with the realization of the project are considered at this stage and estimates are made. The cost of the project is always an important feasibility factor. If there is a new development on a land; A development cost estimate is made. Cost estimates for developing a project include land, necessary infrastructure, and planned improvements over the land.

Subheadings and scopes of development costs can be classified as follows:

4.1.5.1 Land Related Costs

The purchase price of the land on which the business will be established and the taxes, duties, fees, etc. related to the purchase. expenses are shown in this section.

• Land market value,

• Purchase costs and commission,

• Purchase fees.

4.1.5.2 Construction Costs

Construction costs include building costs, exterior costs and contractor profit. Building costs include rough-to-finish construction and mechanical and electrical installations. Sub-titles of building construction and building installations are given below.

The following titles can be listed under Building-Construction Constructions:

• Ground works,

• Fundamentals,

• External Walls,

• Inner Walls,

• Floors,

• Roofs,

• Fixed construction equipment,

• Other building constructions.

The following titles can be listed under Building-Installations:

• Waste water / clean-water / gas installation,

• Heating installation,

• Ventilation installation,

• Electrical installation,

• Telecommunication installation,

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• Indoor transportation and transportation vehicles,

• Facilities for use,

• Building automation,

• Other elements related to technical installations (plumbing).

Materials and labor, construction technology, building general principles, public restrictive rules.

Under the heading of Exterior Constructions, the following headings can be listed:

• Green areas,

• Hard ground areas,

• Building constructions in open areas,

• Installations in open areas,

• Outdoor equipment,

• Other open space costs.

The contractor's profit, on the other hand, is calculated by determining a percentage of the total construction cost in general (Çıracı, 2002).

4.1.5.3 Other Costs

Other costs include zoning permits and fees, project design, project management expenses, sales and marketing expenses, delivery and management expenses.

• Zoning License and Fees: Zoning implementation fees, zoning plan design cost, zoning consultancy and expenses, license fees and building inspection expenses are collected under this heading.

• Project Planning: Concept and preliminary project, application project, project consultancy and expenses and field studies are shown in this section.

• Project Management Expenses: Expenditures to be made for the team that undertakes the duty of supervision are shown in this section. Project management and implementation consultancy expenses are shown in this section.

• Sales and Marketing Expenses: Sales office establishment and operation, sales and marketing management, advertising and public relations and after sales expenses are shown in this section.

• Delivery and Management: The title deed fee, occupancy fee, invisible expenses and pre-operation expenses are shown under this section.

4.1.5.4 Unexpected Expenses

It is envisaged as a certain percentage of the fixed capital amount excluding the investment period interest in order to meet the unpredictable increases that may arise in the project cost due to forgetting some important expenses, mistakes made in the estimation of physical expenditures and unexpected price increases (other than general inflation) (www.dpt.gov.tr/dptweb/ekutup96/prjplan/prj*.html)

4.1.5.5. Estimation of Financing Costs

After determining the costs for the project, the financing sources to be used should be determined. One of the first issues to be addressed while planning project finance is the establishment of equity/debt balance. Borrowing opportunities, on the other hand, should be evaluated in two categories as long-term and short-term. In financing resources, there are many financing alternatives other than equity and long-term bank loans. Other alternatives such as the company's direct issuance of bonds or borrowing from national or international official financial institutions should be evaluated and a financial structure that meets the appropriate conditions should be tried to be created (Gündüz, 2001).

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In the context of financing, it is necessary to consider both credit and equity. Different financial instruments are reflected in the cash flow. Each of the different funders is willing to assume certain risks and expect a proportional return. Net operating income is shared between various sources of finance. Those who create potential sources of financing want to feel secure that they will receive returns commensurate with their risks.

V. HOUSING MARKET IN TURKEY

Housing production is one of the most important components of the economy, whose problems should be carefully examined due to the fact that it responds to the housing needs of people and consists of many manufacturing items, and the employment opportunities it creates. Since housing production is dependent on more variables than other economic goods, the market to be formed turns into a complex structure that depends on many parameters.

Housing as an economic good; It has properties such as non-substitutability, dependence on soil, weight and mass, durability and longevity, long production time, high production cost, heterogeneity, settlement formation. According to these characteristics, the housing market can be divided into regional and sub-markets according to the land and construction costs. It is not possible to make a precise prediction about the cost due to different parameters. It may not have the flexibility to make changes at the same speed against the changes that may occur in the market. The problems that may occur in the housing market are due to these characteristics of the house and the market.

The most important point to be considered in this regard is to determine whether the factors affecting these problems, which may occur in places where supply and demand do not overlap, exceed a certain level and to take appropriate measures (Şensal, and Doğançay, 2002).

5.1. Housing Finance Sector in Turkey

In Turkey, as in many developing countries, there is no developed housing finance system in which specialized financial institutions play an important role. Housing finance is mostly provided by people's own savings and borrowing from their relatives and house builder or seller, which is called direct financing (Alp, and Yılmaz, 2000).

In terms of housing finance, we can examine the existing structure under two headings as individual and traditional. Under these headings, there are the following participants in both sectors:

Traditional Sector

• Housing Contractors (build-sellers)

• Building Cooperatives

• Build your own house

• Individual Sector

•Housing Authority

• Commercial Banks

• Social Security Institutions and Solidarity Funds

5.2. Application of Mortgage System in Housing Finance

'Mortgage' refers to the real estate financing system based on the use of long-term housing loans such as 15-20 years in return for the mortgage to be established on the housing by financial institutions for those who want to own a house. The main purpose of the system, which may differ according to the economic and social structures of the countries, is long-term and low-interest housing loans.

Institutions that provide this financing to the consumer for housing finance their activities with the deposits they collect and the funds they obtain from the capital market instruments they issue. It is securitized with mortgage-backed capital market instruments in two different ways in the world.

5.2.1. Mortgage-Based Capital Market Instruments

We see mortgage-backed securities and mortgage-backed bonds as mortgage-backed capital market instruments. However, mortgage loans form the basis of such market instruments. An income is generated as a result of loan payments and interest differences collected as a result of mortgage loans, and thus capital market instruments are profited. After examining mortgage loan types and mortgage loan insurance, capital market instruments were examined.

5.2.2. Mortgage Loans

The most important application related to mortgage is Mortgage loan. In countries with developed real estate financing markets, individuals and institutions that want to buy or have real estate built but do not have sufficient funds can apply for many mortgage loans if they meet the necessary conditions. Choosing the right type of real estate mortgage loan for them depends on the ability of these individuals and institutions to make the prepayment, their level of income, the maturity of the loan and their ability to fulfill other conditions required by the credit institutions.

People who want to get real estate loans will consider many factors when choosing the financial institution they will apply. These are factors such as the types of mortgage loans that financial institutions can give, the interest rates applied to the loans, and the loan evaluation process.

5.2.2.1. Classic Mortgage Loan

Technically, a mortgage loan can take any form that the lender and the borrower agree upon. However, the conventional (traditional) mortgage loan is a fixed interest rate, equal repayment, fully amortized loan. The basic idea behind this type of mortgage, which is expressed as a classical mortgage loan, is to repay the borrowed debt in equal installments as interest and principal, within the agreed time, which is expressed as the period (term) or duration of the mortgage loan. Thus, at the end of the term, the loan is fully is amortized (Yılmaz, 2000) .

In general, the interest rate charged on mortgage loans is higher than the risk-free rate (the rate determined for government-guaranteed securities such as treasury bills and government bonds). This is due to negative factors such as the lower liquidity of mortgage loans compared to government domestic debt securities, uncertainties in cash flow (early payment risk), and difficulties in finding loans (Alp, and Yılmaz, 2000) .

5.2.2.2. Increased Repayment Amount Mortgage Loan

"Mortgage Loan with Incremental Repayment Amount" is a type of mortgage loan where the repayment amounts of the mortgage loans are increased between the borrower and the issuing institution for certain periods throughout the term of the loan. When and how much the repayment amounts will be increased are clearly determined in the mortgage agreements. Although there is no change in the interest rate and maturity of the loan taken in this type of loan, only the repayment amounts change (Alp, and Yılmaz, 2000).

5.2.2.3. Variable Rate Mortgage Loan

"Variable Rate Mortgage Loan" refers to the type of loan that the interest rates of the mortgage loan are changed at predetermined periods in the contract throughout the term of the loan, in other words, it is redetermined. The reason for the implementation of this loan is to protect the lending institution against the risk of changes in interest rates. With the emergence of changes in interest rates, variable rate mortgage loans have become a much more advantageous loan tool for lenders than conventional mortgage loans (Alp, and Yılmaz, 2000).

5.2.3. Mortgage-Backed Securities

Especially after the 1970s, off-balance sheet securitization by pooling mortgage loans and issuing securities based on them is one of the most important developments in real estate financing.

In this way, problems such as the accumulation of payments in traditional mortgage loans and the loss of real value of loan installments were prevented in this way, and both the lender and the lender group were expanded, and institutional investors were allowed to enter the markets.

VI. MORTGAGE SYSTEM APPLICATION EXAMPLES

6.1. Sample Project Construction Cost

Construction Cost of 12 Flats In the list, the construction costs of a company that has completed the construction of 12 flats in the Karşıyaka neighborhood of Ortahisar district of Trabzon province are presented in items (Due to the company's commercial concerns, it requested confidentiality and did not consent to the publication of its name).

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The Approximate Cost of a Construction with 12 Flats and a Construction Area of 2250 m2 (according to 2018 data):

• 1 Foundation-Excavation, Fill-Drainage and Insulation Works 324,861.36

• 2 Concrete and Reinforced Concrete Works 513,097,00

• 3 Masonry Works 72,322,90

• 4 Floor Coverings 144.447,68

• 5 Wall Coverings 184,473,80

• 6 Ceiling Coverings 28,444.26

• 7 Satin Plaster-Paint Manufacturing 71,633.52

• 8 Baseboard Manufacturing 6.080,16

• 9 Railings 24,789,60

• 10 Marble Stairs and Sill Cover+Copper+Door Threshold 65.000,00

• 11 PVC Joinery Works+Folding Glass 91.800,00

• 12 Door Manufacturing 86,000,00

• 13 Exterior Cladding Works 156,746.72

• 14 Furniture 89.880,00

• 15 Roof Manufacturing 23,850,00

• 16 Landscape Works 20.000,00

• 17 Other Manufacturing Items 79.140,00

• 18 Plumbing 125,000,00

• 19 Electrical Installation 100,000,00

The costs of the construction of 12 flats in the Karşıyaka neighborhood of Ortahisar district of Trabzon province are shown in the table above. The company is making its 12 flats project on an area of 2250 m2, and in its construction, 19 main items and 63 sub-item cost tabs were formed. The list includes the approximate turnkey costs of the construction. The construction cost of 12 flats is planned to be 2.207.567-TL. The cost per flat is calculated as 2.207.567-TL / 12 = 183.963,917-TL. The company that realized the project bought the land of the project with a contract in return for flat and stated that it will give 5 flats to the land owners based on this contract. The cost of 5 flats is 5 x 183.963,917-TL = 919.819,583-TL. Since the 5 flats to be given to the land owner cannot be sold by the contractor, the cost of the 5 flats is added to the 7 flats to be sold, and the additional cost of the 1 flat to be sold by the contractor is 919,819,583-TL / 7 = 131.402,798-TL. The total cost of 1 flat to be sold by the contractor is 183.963,917-TL +131.402,798-TL =315.366,715-TL. When the Trabzon housing market is examined, it is accepted that the minimum contractor profit is determined as 20%, and the sales price of 1 flat is calculated as 315.366,715-TL X 1.20 = 378.440.058-TL. In the project example, the sales prices of the real estates offered for sale by the construction company were confirmed from the regional appraisal reports and cost verification was made.

6.2. Results

Based on the average sales price resulting from the project study taken as an example above, 80% of the amount obtained as a result of the valuation process to be carried out by CMB licensed evaluation institutions, depending on the terms of use of housing loans in Turkey, is allocated as housing loan. If we accept that the relevant value is 10% higher than the market sales price, taking into account the market sales conditions and the future value of the real estate, the relevant real estate can be evaluated with a value of 378,440,058-TL X 1,10=416.284,063-TL. In accordance with the legislation in Turkey, banks will be able to allocate housing loans to the relevant real estate in the amount of 416,284,063-TL X 0.80 =333.027,25-TL. If it is accepted that a total of 12 flats were sold by using bank loan, 333.027,25-TL X 12 =3.9966.327,01-TL bank loan will be used. In return, the bank will be able to receive a real estate mortgage guarantee of 416,284,063-TL X 12 =

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4,995,408,76-TL. In this case, the bank's collateral ratio for the loan extended will be 4.995.408.76-TL /3.996.327.01-TL = 1.24%. In the event that the contractor for the 12 flats housing construction work is eliminated and the banks provide loans to the land owners within the scope of the housing project, the loan amount that the banks should allocate will be 183.963,917-TL X 12 = 2.207.567-TL and the appraisal value of the real estates to be secured is 4.995.408.76- It will be TL. In the second application, the collateral ratio for the loan to be extended by the bank will be 4.995.408.76-TL /2.207.567-TL = 2.26%. The Bank will extend a loan of 2,207,567-TL instead of using 3,996,327,01-TL for the same collateral, and will have the opportunity to obtain funds by securitizing real estate mortgage collaterals and putting them into action in the mortgage markets. In case the loan amount is accepted as the same maturity, the probability of default may decrease compared to the first situation, since the installment amount will decrease. In case of non-payment of a possible loan, the ability to collect the loan will be high due to the high margin of collateral received.

VII. CONCLUSION

In the housing project, the costs consist of the land share, the construction cost and the contractor's profit. As mentioned in the research, if the land owners are given the opportunity to make the relevant housing projects and the contractor is provided with the progress payment they will receive in return for the commitment, if an arrangement is provided within certain rules, the following results are revealed according to the study.

1- The collateral amount and rates of the bank that will extend the housing loan will increase and show an upward slope.

2-The bank that will extend the housing loan will be able to obtain additional resources by securitizing their mortgages in the real estate collateral pool with a high amount and rate. Due to the low loan allocation amount, required reserves will decrease and securitization of the remaining collateral will provide additional resource input opportunities. The reliability of the collateral pool will positively affect the demand for securities. In addition, the increase in the amount of related resources will reduce the credit costs.

3- If the collateral rates are higher than the loan given, the percentage of loss from collateral will decrease. This situation will reduce housing loan prices and bring a competitive advantage to the relevant bank.

4- If it is accepted that the maturity of the housing project is the same as the housing loan, the installment amounts will be lower in housing projects and will reduce the possibility of default.

5-In case the banks extend credits to the land owners for the housing project, the contractor's profit and the land share will no longer be the weighted determining cost factor, and the sales prices of the flats will come down from their current situation. This situation will cause an increase in the number of flat purchases in Turkey and may provide growth in the economy.

6- The decrease in the probability of default mentioned above, the decrease in the percentage of loss from the collateral, the high level of collateral received in return for the allocated housing loan will increase the bank's capital adequacy ratio according to Basel II criteria and may be above the rates that will hinder the bank's activities (opening new branches).

Total Credit I= 3.996.327,01 II=2.207.567-TL

Loan Installment Amount 93,818,35-TL 51,825,16-TL

Probability of Default 0.4 0.24

Guarantee Amount 4.995.408.76 4.995.408.76

Margin Ratio 1.24 2.26

Interest Rate 1.2 1.2

Maturity 60 months 60 months

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