

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE  
SUMY STATE UNIVERSITY  
Educational and Research Institute of Business, Economics and Management  
Department of International Economic Relations

ANNA KARAS

(Full Name)

**MASTER'S LEVEL QUALIFICATION PAPER**

on the topic "INTERNATIONAL REAL ESTATE MARKET: TOOLS AND  
DEVELOPMENT TRENDS FOR ASSET DIVERSIFICATION"

Specialty 292 "International Economic Relations"

Student II Course

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Group ME.M. – 11aH

(group's code)

\_\_\_\_\_

(signature)

Anna Karas

(full name)

It is submitted for the Master's level degree requirements fulfillment.

Master's level degree qualification paper contains the results of own research. The use of the ideas, results and texts of other authors has a link to the corresponding source

Research advisor:

Head of the Chair of International Economics Relations,

Doctor of Economics, Professor.

(position, scientific degree)

\_\_\_\_\_

(signature)

Yuriy Petrushenko

(full name)

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## SUMMARY

of Master's level degree qualification paper on the theme  
“INTERNATIONAL REAL ESTATE MARKET: TOOLS AND DEVELOPMENT  
TRENDS FOR ASSET DIVERSIFICATION”

Student Anna Karas  
(full name)

The main content of the master's level degree qualification paper is set out on 40 pages, including a list of used sources of 38 titles, which is placed on 4 pages. The work contains 3 tables, 2 figures.

**KEYWORDS:** REAL ESTATE, INTERNATIONAL REAL ESTATE MARKET, DEVELOPMENT, INVESTMENT, MORTGAGE LENDING, NFT DEALINGS IN THE REAL ESTATE, SMART CONTRACTS IN THE REAL ESTATE.

The purpose of the qualification paper is to consider and study the process of functioning of the real estate market, identifying its basic patterns, tools and trends, during particular instruments of asset diversification.

The object of the research is the features of the analysis of international real estate in the world market, including actual trends of industry.

The subject of research work is the theoretical, methodological and applied aspects of the world real estate market, including elements of asset diversification.

To achieve this goal and objectives there were used following scientific methods of research: systematization and generalization (by theoretical justification - the concept of real estate market), comparison (in the process of isolation of the common and different advantages of the main trends of the real estate market), systematic analysis (during the study of the concept real estate market at different levels).

The main scientific results of the work are as follows:

- 1) author's definition of the concept of "real estate market", "types of real estate market";

- 2) author's classification of subjects in the real estate market;
- 3) systematization of factors that determine the real estate market trends;
- 4) description of the main directions allows to diversify real estate assets.

Year of Master's level qualification paper fulfillment is 2022

Year of Master's level paper defense is 2022

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE  
SUMY STATE UNIVERSITY  
Educational and Research Institute of Business, Economics and Management  
Department of International Economic Relations

APPROVED BY  
Head of the Department  
Doctor of Economics,  
Professor  
(academic degree, academic rank)  
\_\_\_\_\_ Yuriy Petrushenko  
(signature) (full name)

TASKS FOR MASTER'S LEVEL DEGREE QUALIFICATION PAPER

(specialty 292 " International Economic Relations ")  
student II course, group ME.M. – 11aH  
(course number) (group's code)  
Anna Karas  
(student's full name)

1. The theme of the paper is «Logistics activities of transport enterprises and supply chain management in international business» approved by the order of the university from 27 October 2022 №0969-VI.
2. The term of completed paper submission by the student is 18.12.2022
3. The purpose of the qualification paper is to consider and study the process of functioning of the real estate market, identifying its basic patterns, tools and trends, during particular instruments of asset diversification.
4. The object of the research is the features of the analysis of international real estate in the world market, including actual trends of industry.
5. The subject of research work is the theoretical, methodological and applied aspects of the world real estate market, including elements of asset diversification.

6. The qualification paper is carried out on materials out on materials, textbooks and manuals on the selected topics, regulations, some analytical reports of the international organizations, government statistics, the publications of sites and scientific papers were used during the investigation.

7. Approximate master's level degree qualification paper plan, terms for submitting chapters to the research advisor and the content of tasks for the accomplished purpose is as follows:

Chapter 1 “Real estate market: essentials”

Chapter 1 deals with basic definitions of real estate market. Discover concept, functions and features. Also to reveal types and the subject.

Chapter 2 “Tools and development trends”

Chapter 2 deals with necessary to analyze actual tools, trends of the real estate market. Next step to expose actual directions such as mortgage lending, investment, and NFT marketplaces for the apartments.

Chapter 3 “Monitoring dealings by cryptocurrency”

Chapter 3 deals with narrow topic that become more popular every year and found strong trend for next 5-10 years.

8. Supervision on work:

Chapter	Full name and position of the advisor	Date, signature	
		task issued by	task accepted by
1	Yuriy Petrushenko	1 November	19 November
2	Yuriy Petrushenko	19 November	7 December
3	Yuriy Petrushenko	7 December	12 December

9. Date of issue of the task: 15.10.2022

Research Advisor: \_\_\_\_\_ Yuriy Petrushenko

The tasks has been received: \_\_\_\_\_ Anna Karas

## CONTEST

INTRODUCTION.....	7
1. REAL ESTATE MARKET: ESSENTIALS.....	9
1.1 Concepts, functions and features.....	9
1.2 Types of real estate markets.....	12
1.3 Subjects of the real estate market.....	15
2. TOOLS AND DEVELOPMENT TRENDS.....	18
2.1 Development of real estate objects.....	18
2.2 Mortgage lending.....	22
2.3 The essence of real estate investment.....	34
2.4 NFT Marketplace for Real Estate.....	41
3. MONITORING DEALINGS BY CRYPTOCURRENCY.....	44
3.1 Deal with Australian House in world-first cryptocurrency auction.....	44
3.2 NFT deal with apartment in Kyiv.....	44
3.3 Primary real estate in Ukraine can be bought for cryptocurrency.....	45
CONCLUSIONS.....	47
REFERENCES.....	49
ANNEXES.....	53

## INTRODUCTION

The purpose of the qualification paper is to consider and study the process of functioning of the real estate market, identifying its basic patterns, tools and trends, during particular instruments of asset diversification.

The object of the research is the features of the analysis of international real estate in the world market, including actual trends of industry.

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To achieve this goal and objectives there were used following scientific methods of research: systematization and generalization (by theoretical justification - the concept of real estate market), comparison (in the process of isolation of the common and different advantages of the main trends of the real estate market), systematic analysis (during the study of the concept real estate market at different levels).

The important theoretical and practical aspects of the international real estate market is presented in the scientific papers of the domestic and foreign scholars, in particular – Galagan D.V., Pavlov K.V., Kahneman, D., Voronin V.O., Berezhna A. Y., Pavlov V.I., Kahneman D., Kryvoviaziuk I. and others.

The information base of the master's level degree qualification paper is...

The scientific novelty of the work is:

- 1) author's definition of the concept of "real estate market", "types of real estate market";
- 2) author's classification of subjects in the real estate market;
- 3) systematization of factors that determine the real estate market trends;
- 4) description of the main directions allows to diversify real estate assets.

From a theoretical point of view, real estate is meant a plot of land with all immovable property above and below it. That is, a real estate object can be defined as a cone originating at the center of the earth and bends in airless space. Such an interpretation is theoretical levels can be seen as a comprehensive definition of real estate. Between to others, each country has its own legal features of this concept.

So, for example, the German Civil Code refers to real estate land plots, their constituent parts; things firmly connected to the soil; buildings; products of the earth while they are connected to the soil; seed, if it is introduced in land; plants and plantations. Similar signs of real estate are contained in Civil codes of Italy, Japan, Switzerland. French law comes from broader concept of real estate. Real estate by its nature includes: land and related buildings, crops, forests, etc., and according to its purpose - machines, tools, raw materials used at the enterprise, agricultural implements and livestock (although by its nature this property is movable; if these objects are separated from the composition of the economy, then are already considered as movable property). According to French law fall under the concept of "real estate", property rights established on land - easements, mortgage.

Analysis of the definitions that are normatively fixed, and that is exactly what they have practical value, allows formulating a single general approach to this concept: real estate is everything that cannot exist without damage moved relative to the earth, as well as the earth itself (land plot).



## 1. REAL ESTATE MARKET: ESSENTIALS

### 1.1. Concepts, functions and features

An important component of any national economy is the real estate market, since real estate is the main part of national wealth, which, according to scientists, accounts for more than 50% of the world's wealth. Without the real estate market cannot be a market at all; other types of markets (labor market, the capital market, the market of goods and services) must have or rent premises. With this in mind, the real estate market should be considered as a set of relationships around transactions with existing real estate objects. On the other hand, the real estate market covers the sphere of capital investment in new ones real estate objects, i.e. a set of relationships related to the creation of new one's objects.

In view of the above, the real estate market can be defined as a set of relationships around transactions with real estate objects: creation of new or development of existing ones, sale, mortgage, lease, etc. (see Figure 1.1).

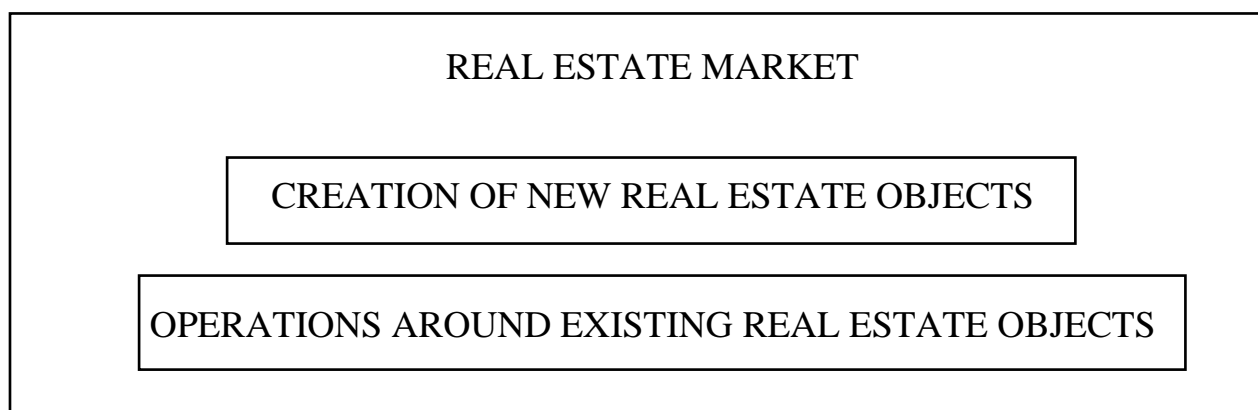


Figure 1.1. The essence of the real estate market

Functioning of the real estate market as an element of the market structure characterize certain features that are revealed through the functions of this market. The main functions of the real estate market are informational, price-forming, intermediary, investment, social, stimulating etc. (see Table 1.2).

The real estate market is quite complex and, so to speak, unique market with certain specific features. [1]

The main ones are the following:

- locality of the market, i.e. unchanging location of objects real estate;
- the uniqueness of all real estate objects, which determines their difference prices;
- low liquidity – long stay on the market On the market of residential real estate, on average, objects are exhibited for 1-1.5 months, in the commercial real estate market, exposure periods reach 6 months and more;
- inconsistency between the high price of objects and financial capabilities buyers, which requires the possibility of obtaining a loan in most cases on implementation of transactions with real estate;
- low interchangeability of objects, this is due to the fact that the demand for objects is determined not so much by the consumer qualities of the objects themselves, as their location, state of infrastructure in the area where the object is located (by the availability of roads, the subway, trade and household enterprises service, places of rest);
- low supply elasticity. If there is demand, then increase the quantity offers quickly - difficult, since houses are built for a long time (from several months to several years);
- the need for state registration of transactions;
- investment in real estate: there are no goods on the real estate market only as a means of satisfying the buyer's own needs, but also as an object of them investment activity. [23]

Informational	providing interested subjects with information about the current market situation (demand structure and offers, pricing)
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Price-forming	free formation of prices and real estate objects
Intermediary	establishing connections between consumers, demand and a proposal
Investment	redistribution of investments in real estate objects (transfer of savings and accumulations of the population from passive form of stocks into real capital that brings income to the owner) of real estate
Social	increasing the intensity of work of planning citizens to become owners of apartments, land plots and others real estate objects; promoting the formation of middle class society
Stimulating	economic incentive by the profit of the productive use of achievements of scientific and technical progress under time of creation and use of real estate
Healing	promoting the elimination of uncompetitive and weak market participants and bankruptcy inefficient business entities

Table 1.2. Functions of the real estate market

In addition to the above, the real estate market is also characterized by the following features:

1) cyclic nature. There are no cycles in the development of the real estate market coincide in time with cycles in the national economy. A downturn in the market real estate precedes the decline of the economy as a whole, and, accordingly, the rise follows earlier than in the economy. This means that the state of the real estate market is peculiar indicator of trends in the economy: if the situation in the real estate market worsens, the situation in the national will soon worsen economy, and vice versa - with the improvement of the situation on the real estate market will come rise in the national economy;

2) a high degree of regulatory state influence. The state in relation to real estate objects, as for any goods, does not express claims about their implementation, but at the same time controls the mode of use and the order of implementation of these objects;

3) increase in the value of real estate objects. The real estate object is one of goods, the cost of which is not only almost always stable, but also has a tendency to gradual growth over time;

4) high level of transaction costs (costs accompanying relationships of economic agents, including those related to contracting agreements). On average, such costs make up 5-7% of the price of the real estate object.

Given the peculiarities of this type of market, the real estate market differs from other markets by a number of factors that complicate its analysis.

This is, first of all, the difficulty of obtaining reliable information about agreements with real estate, given that they are often confidential in nature. Secondly, it is a limited number of similar deals (and sometimes even their absence at all).

## 1.2. Types of real estate markets

The real estate market has a complex, branched structure and it can be differentiated by various signs (see Table 1.3).

According to the method of execution of dealings	primary market
	secondary market
By types of agreements	the buying and selling market
	rental market
	mortgage market
	market of property rights (trust management), etc.
By degree readiness to exploitation	the unfinished market construction
	new construction market
	construction market that subject to reconstruction

By functional destination	housing market real estate
	the market of industrial buildings
	non-production market premises
	the market of commercial apartments
	hotel market, etc.
By functional processes on market	Development sector (creation) real estate
	Sector of circulation of rights to real estate
	Management sector and exploitation

Table 1.3. Types of real estate markets

According to the method of carrying out transactions, the real estate market is divided into primary and secondary. [6]

The primary real estate market is understood as the totality operations carried out with newly created as well as privatized one's objects. It ensures the transfer of real estate objects into economic circulation.

The secondary real estate market is understood as a set of transactions that are carried out with already created objects that are in operation and related to resale or other forms of transfer of objects real estate from one owner to another.

Primary and secondary markets, acting as two parts of a single one real estate market, mutually influence each other. For example, prices for the secondary market is a special benchmark that shows how much new construction is profitable at the current level of costs. [2]

The primary and secondary real estate markets react differently to change in the economic situation as a whole, both nationally and regional levels. For example, when demand decreases, the secondary market real estate can quite flexibly respond to this by reducing supply and falling prices, the lower limit of which is determined by three factors: price the purchase of the object, the financial position of the seller and the level of compliance his income is at the level of current costs for maintaining real estate. Range reductions in prices or supply can be quite extensive.

The situation is different in the primary real estate market. Lower price limit determined by the level of construction costs. However, how is more difficult here decrease and increase supply. A number of people are involved in the construction process organizations, each of which is interested in using its capacities and resources, and it is impossible to stop the construction process instantly. That much it is impossible to quickly increase the offer - the process of creating objects real estate lasts months or even years. There is an offer on the primary market absolutely inelastic in the short term.

So, the secondary market is more inert due to the fact that the decision is on it is accepted by many people, and the motivation for selling is more blurred than on the primary real estate market, where the sale is a necessary, enabling phase return of invested funds.

According to the functional processes taking place in the real estate market, its three sectors are distinguished:

- the sector of development (creation) of real estate objects;
- real estate management (operation) sector;
- the sector of circulation of rights to previously created real estate objects.

The real estate development (creation) sector is responsible for organization of the system of development of real estate objects, development of territories and directly development (creation) of real estate objects. This is the investment-construction stage of the development of real estate objects, which involves investment design, determination of the purpose of the real estate object, its design, land acquisition, construction (reconstruction), commissioning). [6]

Real estate management (exploitation) sector - operation, repair, support - monitors the degree of influence of certain factors or others commodity characteristics of real estate objects on their profitability. Right from here a request is issued to the development sector to create the most profitable types real estate objects. In the case of insufficient development of the management sector, the request

the development sector is transferred directly from the circulation sector. The sector of circulation of rights to real estate objects - sale, lease, etc., forms market price for real estate objects.

### **1.3. Subjects of the real estate market**

A variety of companies have formed and are actively operating on the real estate market structures contributing to the efficiency of its turnover. Economical real estate market subjects are: buyers (tenants), sellers (lessors), professional participants of the real estate market.

Buyers (tenants) are investors investing their own, borrowed or raised funds and ensure their intended use. The buyer is the main one subject of the real estate market. It can be an individual and a legal entity, as well as a state administration body that has the right to this operation by law. It is for buyers that the entire structure of the real estate market works.

Sellers (lessors) - owners of real estate – any a legal entity or an individual who has the right of ownership of a real estate object (households, enterprises of all forms of ownership, state property funds, bodies authorized by local authorities).

Professional participants in the real estate market are intermediaries who serve processes in the real estate market. The composition of professional participants is determined by the list of processes that take place on the market with the participation of the state, and a list of types of activities commercial structures. Accordingly, professional participants in the real estate market can be divided into institutional and non-institutional.

Institutional participants represent the interests of the state and act on its behalf name. They include organizations of the following profile:

- bodies of state registration of rights to real estate and contracts with it,
- organizations that regulate urban development, land management, etc.

land use:

- 1) state and regional bodies dealing with inventory of land, creating a land cadaster, zoning territories, registration of land acquisition;
  - 2) state and regional bodies of architecture and urban planning, which approve and coordinate urban planning plans for the development of territories and settlements, create an urban cadaster, issue permits for construction;
- bodies engaged in approval and coordination of architectural and construction projects,
  - bodies conducting inventory and accounting of buildings;
  - bodies of technical and fire inspection, which supervise construction and operation of buildings and structures.

Non-institutional participants work on a commercial basis. They include:

- entrepreneurs who carry out commercial activities on the real estate market according to the law;
- brokers who provide services to sellers and buyers during execution transactions regarding real estate objects;
- appraisers providing services to owners, investors, sellers and to buyers from an independent assessment of the value of the real estate object;
- financiers (bankers) financing operations on this market;
- developers engaged in the creation and development of real estate objects;
- redevelopers engaged in development and transformation (secondary building) of the territory;
- designers and builders working on a commercial basis;
- lawyers engaged in legal support;
- insurers engaged in the insurance of objects, contracts, professional responsibility;



- analysts who research the real estate market and prepare information for making strategic decisions regarding its development;
- financial analysts engaged in financial analysis of investments projects;
- specialists in the field of training and professional development of personnel;
- marketers and other participants.

## 2. TOOLS AND DEVELOPMENT TRENDS

### 2.1. Development of real estate objects

Entrepreneurial activity occupies a certain place in the real estate market, related to the creation and development of land plots, territories, buildings, etc. other real estate objects. This activity was called development.

Real estate development is a versatile business that encompasses various types of activities - from reconstruction and leasing of existing buildings to purchase of uncultivated land and sale of improved land plots. Also it includes the organization of investment project financing, including its design, construction, sale of the object as a whole or in parts (independently or with the involvement of previously listed participants as contractors and co-investor). A professional entrepreneur who initiates and ensures the implementation of the best possible options for creation and development real estate objects are called the developer.

The essence of the development phenomenon is generally expressed in different ways. It is possible to be considered as a special type of entrepreneurial activity for the purpose of obtaining profit due to transformations of material processes; creating an object real estate as a result of construction (repair) and other works with buildings, buildings or land; or transforming it into another new object real estate (change of functional purpose), which has a higher value than initial.

Development can also be considered from the standpoint of management. Yes, development is project management, in which the developer acts on the order of the investor, performing project management functions. [8]

There are also interpretations of development from an investment point of view – this method of organizing the investment process, which involves organization financing and implementation of the real estate development project by the developer in certain terms and within the framework of the relevant budget restrictions.

Today, almost all construction organizations dealing with housing construction, call themselves developers, because, in most of their land plots on which construction can be carried out are completely unprepared: their legal registration, engineering networks are missing. [27]

If we consider development as a business activity related to construction of residential buildings, buildings, structures, etc., then, of course, the concept of "developer" is broader than the concept of "developer".

Development as a form of entrepreneurial activity is expressed in the investment process of development (creation) of real estate objects, which includes selection of a team of project participants, market research, marketing, design, construction, financing, accounting, management property, etc. This field of activity requires quite large investments from in a long cycle, and real estate objects for a long time can create regular cash flows.

Thus, development is one of the types of investment projects.

A developer is an entrepreneur who initiates and organizes the best of possible options for real estate development, including financing project and implementation of the created real estate object.

The duties of the developer include:

- selection and definition of the conceptual commercial idea of the project;
- choosing a site that is optimally suited to the conceptual idea and acquisition of rights to it;
- marketing;
- search for mechanisms to attract investors (including through development of collective investment schemes, strengthening of ties with financial market);
- organization of project financing, organization and management design, construction;
- lease of the completed facility with further operation or sale of the object. [28]

Depending on the functional orientation, office, commercial, residential, hotel, sports, entertainment, recreational and combined development.

The Ukrainian development market is still underdeveloped, therefore there is a need to distinguish development as a special form business activity on the real estate market, which is one of the conditions active assimilation of world experience in the development of entrepreneurship in this area market economy.

In countries with a developed market economy, typical ones are used financing schemes for development projects, among which it is following:

1. Real estate development project implementation with involvement strategic investor. According to this scheme of project capital investment

is distributed as follows:

- initial capital – 20%,
- funds of a strategic investor - 25%;
- loans - 25-30%;
- contractor's resources;
- customer advance payments and resources received from the sale of the first object queues;
- others

2. Creation of a financial pool, implementation and financing of the project through a venture company created by investors.

Financing under such a scheme involves such an investment scheme project:

- initial capital – 10%
- sale, placement (shares and bonds of a venture company);
- bank loan;
- other funds.

3. Variants of the above two schemes. The most common are: co-financing of the project by the contractor (in the amount of 50% or more); finding strategic client and involving him in financing at an early stage implementation of the project. Strategic investors can be both private and institutional investors. [18]

Entrepreneurial activity related to the transformation of the object real estate to another, new object with a different functional purpose, as a result of which the value of the real estate object increases in the Western economy is called redevelopment, i.e. re-building.

In domestic practice, this direction of entrepreneurial activity has received the name development of territories.

A redeveloper is a person who manages the development process of territories. The closest in meaning to the concept of the Ukrainian language is urban planner and the developer, sometimes the customer.

As a result of the functional features, the urban planner often interacts with by other participants, with consultants on territorial development, who are for by the nature of their activity and training they are architects, planners, urban planners, economists and financiers.

In the next group, specialists in the creation of the city participate infrastructure and builders of residential buildings and public buildings.

Important groups of participants in the development of territories are the authorities: electors' bearers of a social order from the population and the city the administration, whose function includes the entire complex of managing outflows in the city.

And, finally, the last major subject of mutual relations is an investor who can be both a customer or an intermediary between the developer and the ultimate owner of city real estate objects on the territory of the city. [26]

The Ukrainian development market is underdeveloped and includes such participants: private and institutional investors, developers, banks, insurance

companies, land consultants, architects and designers, contractors, appraisers, legal and financial consultants, agencies with real estate, real estate and firm owners, real estate tenants, municipal organizations, including land and property committees, architectural and planning management.

## **2.2. Mortgage lending**

The modern developed economy assumes the wide use of mortgage crediting - providing a loan secured by immovable property.

A mortgage is a pledge of real estate for securing the monetary claim of the creditor (pledgee) to the debtor (of the guarantor). The experience of leading Western countries shows that mortgages are the most an attractive type of securing a large loan for the long term.

The advantage of mortgage lending is that if the borrower (mortgagor) does not return the loan, the creditor has the right to dispose of the real estate at your discretion. Given that real estate is characterized by durability, the price for it is sufficiently stable, the creditor has low fears of non-repayment of loans, which creates grounds for long-term diversion of financial resources.

Creation of an effective system of mortgage lending is possible on the basis development of primary and secondary mortgage capital markets.

The primary mortgage capital market consists of lenders who provide loan capital, and borrowers-investors who buy real estate for investment or commercial use. [31]

The secondary mortgage market covers the buying and selling process collateral issued on the primary market. The main task of the secondary mortgage capital market - to provide primary creditors with an opportunity to sell the primary collateral, and to provide another loan for the received funds local market.

Attracting financial resources on the basis of mortgages received the largest development in the real estate market, because the value of real estate in the majority cases don't correspond to the financial capabilities of potential buyers, but itself real

estate, for the purchase of which the loan was received, can serve as securing the obligation to return it.

When considering the issue of mortgage lending, the concepts should be distinguished "pledge object" and "lending object".

Under the object of collateral in mortgage lending should be understood immovable property (building, land) serving as collateral obligations of the borrower. The object of lending should be understood as a specific one the purpose for which the loan is granted.

Thus, in Ukraine, in accordance with the Law "On Mortgages", mortgage – kind of ensuring the fulfillment of the obligation by immovable property that remains in possession and use of the mortgagor, according to which the mortgagee has the right in case of non-performance by the debtor of the obligation secured by the mortgage get satisfaction of their requirements at the expense of the subject of the mortgage mainly before other creditors of this debtor. [5]

A mortgage is recognized as a pledge of an enterprise, structure, building, construction or of another object directly connected to the earth, together with the corresponding one a plot of land or the right to use it.

A broad interpretation of the concept of a mortgage also considers it as a way of obtaining it loan secured by real estate, and as a way of obtaining a loan for purchase real estate The term "mortgage" ("pure mortgage") should be considered as a method securing obligations when real estate is the subject of collateral.

If the loan is issued for the purchase of housing, the term is used "mortgage (housing) lending". For some cases, we will use the term "mixed mortgage", when the borrower takes a loan from the bank as collateral existing housing for the purchase of a new one. Thus, housing lending and mixed mortgage is a form of lending with the only difference that is in the first one case as security for such a mortgage loan can act as both a pledge and a surety, and in the second case – only a pledge of apartments.

As an element of the economic system, the mortgage is characterized by the following three its characteristic features:

1. Real estate collateral acts as an attraction tool necessary financial resources for the development of production.

2. A mortgage is able to ensure the realization of property rights to objects when other forms (for example, purchase and sale) in these specific conditions impractical

3. Creation of fictitious capital based on a valuable asset using a mortgage paper (in the case of imitation by the owner of the real estate object of primary, of secondary securities - pledges, working capital increases by the amount of fictitious capital that is formed). [13]

Mortgage lending is considered as a tool for the implementation of such functions:

- implementation of the constitutional rights of citizens to housing;
- regulation of the rate of development of the country's economy and its individual industries;
- "transfusion" of capital and attraction of investments in the field material production;
- risk insurance and provision of loan repayment guarantees funds;
- stimulation of sales (turnover) of immovable property, when there are other methods (buying and selling, etc.) economically or legally impossible;
- formation of fictitious capital in the form of collateral and derivatives securities.

Property that does not exist in kind at the moment can also be the subject of a pledge entering into a contract, such as a future crop or a building to be owned to build at the expense of the loan, the security of which he serves.



The legislation provides for two main types of pledge: with transfer property to the pledgee (pledge) and leaving the property with the pledger. At the pledgee acquires the first type of pledge in relation to the pledged property right of ownership, use, disposal. Own and use the property in such a way as not to reduce its value, and dispose of - only if it is transferred to the acquirer debt with the preservation of the collateral that secures it. Dispose of mortgaged property, he can only with the knowledge of the bailor. [15]

In the case of a pledge leaving the property with the pledger, the latter may use it in your commercial, economic or other activities. At the same time, he retains all the rights of the owner with some restrictions. Only he can (at his discretion) own and use the subject of the pledge according to its purpose. Income received from the pledged property belonging to the pledgee.

Various combinations of the collateral object and the lending object are possible, when, for example, the loan is granted for:

- construction of housing under housing mortgage;
- construction of a house secured by a plot of land;
- purchase of a plot of land secured by housing;
- purchase of a plot of land against the pledge of existing land.

Participants of the mortgage system are: banks (they carry out checks solvency of the borrower), insurance companies (obliged to insure risks arising in the process of mortgage lending), estimated companies (assess the market value of the apartment).

A mortgage loan, like any other type of loan, is subject to conditions return ability, urgency, payment. Its features are:

- certain deposit;
- in most cases – target nature;

- a long period of provision (10-30 years). However, such a term characteristic only of countries with stable, highly developed economy. In countries with less favorable economic conditions long-term lending is often impossible and mortgage loans, like as a rule, they are granted for a period of 3-5 years. This is the so-called "short mortgage". The scale and effect of its application are small.

A mortgage, in its essence, is not an independent economic category. She serves as material (value security of the loan) as independent economic relations. A mortgage mediates the movement of borrowed value in the process of lending.

Being an important element of credit relations, the mortgage has a large significance for their development. The use of a mortgage increases the number of potential one's creditors and borrowers as subjects of credit relations - often only the presence of real estate collateral makes the loan transaction real. Mortgage significantly strengthens the position of the borrower and gives confidence to the creditor that the loan will be returned. With a mortgage, a lower interest rate is possible compared to unsecured loans. The presence of collateral and, as a result, the real possibility of losing it in case of breach of obligations disciplines the borrower and stimulates him to be rational and productive use of credit. [14]

The development of mortgages presupposes the existence of specific types of securities – mortgage and mortgage bonds. The functioning of these tools helps expanding the geography of credit relations by ensuring permanent inflow of resources for lending and transfer of funds from regions and industries that have a surplus of credit resources, in the regions and industries where they are observed deficit. The existence of a secondary market of mortgage loans, which ensures liquidity of its instruments, is an integral part of modern developed securities market. At the same time, mortgage-backed securities can apply not only to the domestic (national) market, but also to international markets. Thus, the mortgage lending system allows solve many national problems, use the effect of financial leverage in order to increase the efficiency of own financial resources for the account of the use of loans.

The sphere of mortgage credit can cover all sectors of the economy: consumer, production, agricultural.

In the consumer sector of the economy, a mortgage helps to attract funds investors in housing construction. Residential mortgage lending received widespread in global banking practice. Topicality housing mortgage loan due to the fact that its use allows resolve the contradiction: between high real estate prices and current ones incomes of the population; between cash savings of the same group economic subjects and the necessity of their use in another.

The practice of mortgage lending proves that with greater desire banks provide loans in the secondary housing market than in the primary market real estate This situation is determined by the fact that the primary market real estate is unreliable. Banks do not trust many construction companies, because the latter often do not comply with the terms and conditions of construction or objects under construction, for certain reasons, generally turn into "eternal problem". The sizes of initial contributions for primary and secondary education are also different real estate market. On average, the size of the down payment in these markets is 20% of the mortgage value.

A mortgage in the production sector allows you to significantly expand opportunities to provide investments in almost all priority industries industry This is due to the fact that, on the one hand, there are few commercial banks are interested in issuing long-term loans on normal terms, as a result high inflation, crisis of non-payments and other unfavorable factors. On the other hand, industrial enterprises, being in a difficult financial situation position, objectively have no possibility to guarantee a timely return received funds. At the same time, the privatization of enterprises created prerequisites to start mortgage lending (enterprise mortgage).

In addition to housing and industrial enterprises, the object of the mortgage is collateral office buildings, retail and warehouse spaces can be loaned, enterprises of the hotel complex and so on. Thus, obviously certain impact of mortgage lending on the development of services and trade.

A mortgage can play a positive role in solving agricultural problems sector. In agriculture, the problem of involvement is extremely acute investments for the development of agricultural production. Rural the economy practically does not receive loans from commercial banks. Banks it is unprofitable to provide loans to agricultural enterprises because many of them, firstly, are unprofitable, and secondly, they don't have it in them liquid property that could become a subject is sufficient for disposal pledge. [17]

With the adoption of the law on land turnover, the situation can change radically. As a result of the execution of the mortgage, the owner of the land plot, having received funds from the creditor, will seek to use them more effective. Otherwise, he will be obliged to repay his debt by means, received from the sale of the mortgaged land plot, which will lead to a loss his rights to own land.

When land becomes a commodity, there is a powerful incentive for development economic relations in society, which ultimately leads to saturation of the consumer market for domestic goods, a decrease in prices for agricultural products, to the general stabilization of the economy.

It is no secret that the economic prosperity of the country as a whole, as well as development production, construction, agriculture, trade and services, in particular, depend on both the volume and efficiency of investment use, invested in the country or the relevant industry. Mortgage lending in this case - is one of the tools for attracting investment and promotion effectiveness of investing in the economy of large capitals on a long-term basis. Thus, the development of mortgage lending will positively affect the development of almost all branches of the economy, will stimulate the economic growth of the state as a whole. mortgaged land plot, which will lead to a loss his rights to own land.

The modern European system of mortgage lending originated in the middle of the 18th century in Prussia. At this time, money began to be issued under pledge of land ownership. Documents were issued for the provided capital (Hypothekenbrief),

in which the mortgaged plot of land was marked. They were predecessors of mortgage letters.

August 29, 1767 King of Prussia Frederick the Second issued a law on creation of *Landschaft'a* (a credit society engaged in providing mortgage loans). "*Landscape*s" were granted broad rights relative to debtors: they could charge interest and fees without prior court order review, carry out a description of the property and its sale through public auctions.

Some "*landscapes*" could issue a mortgage *Hypothekenbrief*. They sold well, due to the fact that they were used as debt security estates. In 1777, *Hypothekenbrief* with a total value were in circulation about 9 million thalers, in 1787 – 46 million, in 1805 – 150 million thalers. Later, the *Hypothekenbrief* system moved to Poland. A wave of emigration 1830-1831 to France led to the spread of the mortgage system lending in this country as well. [22]

In 1852, the *Credit Foncier de France* (CFF) was established. This institute made it easier to get a loan for agricultural needs. In the basis the idea of centralizing mortgage lending throughout the territory was put forward of France This led to a more even distribution of capital between Paris and the provinces. In issued mortgage securities, it has ceased specify the specific property corresponding to a specific paper. Was general liability specific to "*landscapes*" is eliminated. Ruler the bond began to have a direct claim only to the issuer of it paper If by the middle of the 19th century prevailed *Hypothekenbrief*, then after the institution CFF appeared independent directly from the pledge of the land plot the instrument is a promissory note as a security.

As a result, a new mortgage lending system was created, which France spread to the territory of Germany, and then to a large part of Europe At the same time, the first mortgage banks appeared. Thus, mortgage securities acquired the nature of bonds, secured by a mortgage.

Currently, there are 2 main models of mortgage lending in Europe: classic continental and loan-savings.

The main type of classic continental mortgage credit institution is mortgage bank. Since long-term funds for issuing mortgage loans is not enough, banks always use various additional schemes for their involvement. In particular, short-term resources - "short money", it can be funds of citizens in bank accounts, deposit contributions, loans and long-term resources - "long money" received on account long-term loans, as well as the sale of securities (collateral bonds), secured by loans issued by the same banks.

Cover letters are well established as a reliable means of engagement of capital (according to the statistics of the European Mortgage Union in Brussels approximately 70% of the turnover of mortgage bonds was issued by German companies mortgage institutions). [11]

The functioning of the system of collateral letters is based on the following principles:

1) Licensing. A special certificate is required for the issue of mortgage bonds license. Licensees are subject to certain requirements:

- adequacy of the bank's own capital;
- reliability of sources of formation of authorized capital;
- availability of a well-founded and detailed business plan;
- sufficient qualification of the management staff of the bank, etc.

2) The principle of coverage. The amount issued by the mortgage credit institution in the circulation of mortgage bonds should not exceed the total amount long-term loans issued by him, secured by collateral real estate.

3) Coverage register. All assets serving as cover for mortgage bonds, must be entered in a special register in which it is indicated characteristics of the mortgaged object, the nominal amount of the loan, interest rate, contributions to repayment of the principal debt, cost pledge.

In the United States, scientists associate the development of mortgage lending with the economic crisis of the 20s and 30s. High inflation, income instability population, ineffective work of financial institutions and numerous bankruptcies demanded urgent and tough intervention of the state to withdraw countries from economic hopelessness, the Great Depression, the creation of a reliable and effective financial system, and in particular the new housing financing system.

To solve these problems, revolutionary transformations in a new course of Roosevelt was developed for the country, one of the programs of which was organization of mass availability of mortgage lending. For this, the state the following main tasks were defined:

- creation of a reliable housing financing system;
- support for all residential investment entities, guaranteed protection of private savings;
- search for permanent long-term sources of credit resources for these purposes.

One of the first pre-reform steps was the creation of a special Department of public works, which directed the proceeds to construction subsidized housing for the population.

In 1932-1934, the state created the main basic national schools financial and other institutions related to mortgage housing loans, which have become official leaders of the new credit and financial housing policy.

In the future, for the direct participation of the state in market investment processes, implementation of large national programs in the field of housing, special agencies were created that were assigned to develop and introduction of a completely new state-guaranteed financial technology: purchase of standard mortgage loans from banks and issuance of valuable ones on their basis papers, as well as the organization of the secondary market of credit debts (mortgages), where these credits or securities could circulate freely, expanding endlessly investment framework. It was decided with the organization of such agencies the most important government task is to

create an effective low-risk mortgage system, which is the main tool for stabilizing the economy.

The mortgage business in the post-Soviet space began to develop on early 90s. Low supply of housing for the population, distribution privatization practices pushed commercial banks to develop housing public lending. Within a few years, about 30 banks appeared, who tried to arrange mortgage lending.

However, political instability, the general socio-economic situation, as well as the impossibility of quickly developing mortgage legislation did not contribute development of mortgage operations. In fact, "classic" mortgage lending is not becoming widespread. Instead, the closest tool mortgage lending, there were different types of housing lending.

The first conditional mortgage housing loans were issued by banks in 1993. But the unfavorable economic environment and lack of enough legislative support was put before the credit institutions as follows problems: overcoming the risks of mortgage lending; increase credit availability for the population; attracting resources to provide housing loans

High credit risk in residential mortgage lending is aggravated by the problematic nature of forced execution of those secured by a mortgage obligation, namely the difficulty of evicting an unscrupulous borrower. [30]

There were no high interest rates and short credit terms characteristic of a "classic" mortgage. Mortgage credit institutions, while developing special schemes of conditional mortgage lending, they sought adapt to adverse conditions.

The most widespread in this period was the lending scheme, based on the housing lease agreement accepted by the bank and the borrower.

By the owner of the apartment until the loan is repaid, when using this scheme, most often there was a specialized company (subsidiary structure of the bank) which acted as guarantor of the borrower before the bank, and in case of non-repayment loan as a borrower, undertook to repay it. Relation the size of the loan to the cost of



the apartment was an average of 70% on condition lending for up to two years, 60% - from three to five years, 50% - from six to ten years. In case of delay in payment (beyond the set deadline), the bank terminated the contract with the client unilaterally, to the borrower at best, only part of the initial contribution (up to 50%) was returned. The procedure for obtaining a loan was quite expensive for the borrower - payment for bank services, real estate insurance and other related expenses were made up on average 15-20% of the cost of the apartment. Strict lending conditions significantly limited the circle of potential borrowers.

This scheme was used by most of the implementing banks housing lending.

The problem of attracting resources for providing housing mortgage loans institutes decide in several ways. Large universal banks carried out housing lending mainly at the expense of their own and often loan funds. There is another way of attracting credit by banks resources, although not very common - sale of credit obligations. In the basis the principle of cooperation between the bank and the enterprise was laid down in this scheme providing the latter's employees with housing. [10]

The borrowers, having the company as a guarantor, applied to the bank with requesting a loan. The bank, issuing loans, sold them to the enterprise to the guarantor in the form of credit obligations (bonds), while the bank circumvented most of the risks of mortgage lending. Loan servicing remained with the bank. The risks of mortgage lending under this scheme were reduced mainly to the enterprise - the borrower's employer.

The lending procedure from the bank was mostly formal nature. The bank, lending to enterprises, as a rule, did not carry out serious analysis of the borrower's creditworthiness.

In modern conditions, collateral lending has good prospects various types of commercial real estate (office premises, retail buildings, etc). The development of relevant segments of the real estate market will contribute to this process It is also

expected to force the use of mortgage of leasehold rights land plots for construction. However, in this case, the process re-registration of rights is quite complicated, and the rights themselves become indisputable. Wide spread in the long term will receive a land mortgage. Introduction of land use fees, development different forms of land ownership are prerequisites for the formation of a mortgage mechanism in the agricultural sector of the economy. Currently, there are real needs development of land mortgages. [29]

Thus, the formation of various forms in the country is a favorable result and types of mortgage credit institutions will develop competitive environment, which will undoubtedly serve as a motive for improving technologies lending, mechanisms of financing and refinancing of mortgage loans, assessment of the borrower's creditworthiness, as well as service procedures credit, and will become a powerful factor in the development of the mortgage credit system institutes as a whole.

### **2.3. The essence of real estate investment**

Real estate is one of the most important objects of investment. Income from of direct investments in real estate and securities, secured real estate, with effective management, as a rule, exceeds interest on loan capital and income from securities. And for investors preferred purchase of real estate is a means of securing obligations, because they are a real asset, they have inherent reliability, they are "transparent" for risk assessment and profitability calculations.

Investing means putting capital into the implementation of projects for profit. Invested funds are called investments.

Investing in real estate is the purchase of a specific object real estate or housing investment instruments for the purpose of obtaining profit. Any real estate object in a market system with a developed economy and a formed market is not only a stable asset, but also income producing property. There are several theories according to which the purchase of housing in personal ownership is also considered as an investment investing in income-producing real estate. Indeed, in countries with stable in a market economy, any real estate object gives an increase in value (capital) over

time and brings constant income to the owner. So, a specific real estate object is an investment instrument, similar shares, bonds and other securities.

Investments in real estate can be made in different ways: direct acquisition of real estate or rights to it for the purpose of further development, purchase of buildings and structures for the purpose of their operation and acquisition income

All participants are subjects of real estate investment activity investment projects: investors, developers, contractors, user's real estate, suppliers, banking, insurance and brokerage organizations, foundations, etc. [7]

Investors are individuals and legal entities that invest their own, loan and attracted funds for the financing of real estate objects and provide them intended use.

Investors can act as:

- the government of the country and entities authorized to manage state property, or management structures with property rights;
- local self-government bodies, municipalities represented by bodies and services authorized by law;
- business associations, organizations and other legal entities;
- joint Ukrainian-foreign organizations;
- foreign organizations and other legal entities;
- domestic and foreign natural persons;
- representations of foreign countries;
- international organizations.

Investors can also be financial and industrial groups, investment funds acting as individual investors or in a form syndicate of investors.

A set of intentions and practical actions for making investment investments

in real estate objects and provision of specified financial and economic, production and social results is an investment project.

For the implementation of investment projects in the field of real estate, necessary development of technical and economic justifications, conducting engineering research, development of design documentation for construction and erection buildings and structures, carrying out reconstruction works, concluding contracts with subcontracted construction and installation organizations for the implementation of construction and installation, commissioning and commissioning works, and so on. Investors can perform the customer's functions themselves, through the relevant services or through intermediaries of legal entities or natural persons endowed with the necessary rights disposal of investments within the framework defined by the investor. [3]

Performers of work during the implementation of investment projects in the field design and construction, start-up and commissioning and others are involved in real estate organizations performing engineering and engineering-geological works research, design of buildings and structures, their construction and development production facilities.

Executors also include engineering firms that do not have their own production facilities, but there are specialist managers. These firms act as general contractors for the implementation of investment projects, attracting for performance of various construction, assembly and other works on the terms of the organization subcontracting Specialist managers form and implement an organizational plan for implementation of all works within the framework of the investment project, provide communication works of all participating organizations.

Implementation of investment projects in the field of real estate is connected with using a large volume of construction materials, structures, products, technological equipment, in particular non-standard electrical products, cable products, pipes, rolled metals and so on. Therefore, they are important participants in investment projects are direct suppliers of the specified products and their dealers.

A large group of subjects of investment activity in the field of real estate make up the so-called institutional investors, which include insurance and investment companies, housing cooperatives, mutual investment funds, funds individual housing construction, etc. Appointment of the specified organizations - attraction of free funds of the population.

In relation to real estate objects, real, portfolio investments are allocated, as well as investments in intangible assets (see Table 2.1).

Real investments	investment in the creation (development) of objects real estate, reconstruction or technical rearmament of enterprises (property complexes)
Financial investment	investing in the purchase of shares and securities the state, developer organizations, investment funds, insurance and others financial companies
Investments in intangible assets	investing in the acquisition of property rights and rights possessions (assessed by monetary equivalent) land plots, buildings, property complex; certificates and licenses, patents for inventions, certificates for new technologies, useful models, trademarks, brand names etc.

Table 2.1. Types of investments in real estate

In the domestic economy, real investments prevail, in countries with the developed market economy, financial investments play an important role. The latter are related to the acquisition, formation of a portfolio of securities and their implementation, purchase and implementation of financial obligations, as well as with issuance and sale of securities. Financial investments, in turn, are divided into direct (shares, bonds, promissory notes and other securities) and indirect (trust passive investment, etc.).

Financial investment in residential securities secured by objects real estate or mortgage loans (pledges), is indirect investing. Residential financial investments

mostly supplement real one investments, that is, most investments, having passed the technological circle, become real.

Investments in intangible assets include investments in acquisition of property rights and rights of ownership of land and forest plots massifs and other real estate objects. Real investments investing in the purchase of shares and securities the state, developer organizations, investment funds, insurance and others financial companies

Depending on the form of ownership, investments will be divided into private, state, foreign and compatible.

Private investment is the investment of funds by citizens in shares and bonds and other securities, as well as investments of non-state enterprises and organizations form of ownership.

State investments are carried out by state, regional and local bodies authorities from the funds of budgets, extra budgetary funds and loan funds.

Foreign investments are investments of foreign citizens, legal entities and of states. [12]

Joint investments are investments on the share basis of subjects of the country and foreign partners.

Depending on the direction of investments and the goals of their implementation investment projects in the field of real estate are classified as residential, industrial, commercial, financial, environmental, etc. Ecological projects include the result of which is the creation of nature conservation facilities, improvements parameters of operating enterprises, and so on.

Funds play a special role in financing housing projects development of housing construction. Such funds are created at the expense of funds, received from the privatization of housing and intended for financing and lending for housing construction in relevant cities and rural areas.

The fund is a complex system with the following characteristics:

1. Heterogeneity.
2. Multifunctionality.
3. Credibility.
4. Reliability and economic safety.
5. Stability.

Housing construction financing schemes with the participation of funds suggest the use of preferential mechanisms, which allows solving different accompanying problems of economic and social progress. [33]

There are various investment instruments and technologies of investing in real estate. The most widely used: reinvestment of the company's own funds and loan capital, mortgage, leasing, debt obligations, mutual shares funds There is a constant search for new ways and forms in this area, they are being developed various financial investment schemes in real estate.

One of the main ones in the real estate investment system is the function financing - transfer of financial resources from sources of financing to final investors of real investments. Investing in real estate is a process of providing and spending money on investment activities in the real estate field.

A distinctive feature of investing in real estate at the current stage there is high integration into the general credit and investment sector.

The main forms of investment in real estate (including housing) can be structured according to the principle of building capital, with the help of which the real estate object is obtained:

- financing using only own capital;
- financing with the help of loan capital;
- financing with the help of mixed capital - own and loan.

Financing using only own capital (non-loan funds), that is, the calculation of the buyer and seller for the real estate object at carrying out operations at the expense of own funds only, is used enough rarely. Financing of real estate objects only at the expense of loans capital refers to special types of financing to a greater extent (construction loans, various types of municipal financing, etc.), that require special financing, lending and insurance technologies. At the same time, the loan form itself can have a complex structure that consists from a number of credits and loans. Financing of the purchase of housing by the population using only borrowed funds is also quite rare and requires additional insurance or other additional security.

The main method of investing in real estate is mixed financing. At the same time, loan capital can also consist of several types of loans (or loans). Equity can be contributed once, for example, in the form of equity participation, or it can be accumulated at the expense of various savings systems included in the technology of general lending, as well as due to savings in the bank, housing cooperatives, insurance policies, various accounts, sale of existing property and other external sources savings.

Meanwhile, in Ukraine, against the background of the rapid development of the market of state and investment securities have not yet been formed institutions that ensure market liquidity and openness and engagement savings of citizens for investment in real estate. State policy on real estate market, aimed at increasing income from use of real estate, designed to ensure the inflow of collective investments in real estate, subject to the creation of an effective system for the protection of depositors' rights, which will restore confidence in investment institutions. [35]

The main tools of such a policy should become tough regulation of the activity of investment institutes making investments in real estate, and mandatory, legally established disclosure of information about activities of both investment institutes and other professional participants market.



## 2.4. NFT Marketplace for Real Estate

NFTs are the most trusted way of owning assets in today's digital world and the NFT trend continues to grow and become the next big thing. NFTs are smart contracts with decentralized nodes that help a specific individual take ownership of their assets. This allows a specific person to take ownership of their wealth and do as they please. This means you can trade, sell and fund on future marketplace platforms and make huge profits. The rarer or more unique an item is, the higher its value.

NFTs are mixed in every aspect of society and collaboration between NFTs and the real estate market is progressing nowadays. As technology crosses the mark of unconventional thinking, virtualization becomes a parallel world within it, full of human imagination beyond imagination.

Why is it so popular in the real estate market these days? Let's talk about it. Before the tech boom, people bought properties, dealt with lengthy and tedious paperwork, and before they even thought of moving, they left another sale opportunity hanging in between and got stuck in the paperwork again. "Time is money" they lose potential gains. Just as there are 20,000,000 to 30,000,000 worth of apartments on New York's "Billionaire's Row" and no one lives there, people today are realizing that real estate is changing in the tech sector. I made a play out of needing her. [34]

Another way to find real estate in NFTs is through the real estate market metaverse. Metaverse concepts are gaining traction in a variety of ways, and land sales on existing Metaverse-based platforms are exploding in the NFT era. This can be justified by the fact that someone paid a whopping 4,300,000 for a property in the Metaverse real estate game Decentraland and someone paid 50,000 to own the land alongside Snoop Dogg. sandbox. Given that tech giant Meta (formerly Facebook.Ink)'s next move to bring the Metaverse to fruition is coming sooner, the Metaverse real estate plot is unlikely to be a hot asset going forward. Copies of real plots can also be made on the Metaverse, where virtual plots underlie real plots and transactions can be written to smart contracts, eliminating tedious paperwork.

One of the most important influencing factors is decentralization. Decentralization is at the heart of the blockchain world, including NFT real estate. A decentralized NFT real estate marketplace enables peer-to-peer (P2P) real estate transactions without the involvement of third parties. The process already includes smart contracts, eliminating tedious and time-consuming paperwork. Such NFT real estate marketplaces save time and money for both buyers and sellers, making real estate investing an easier option. [32]

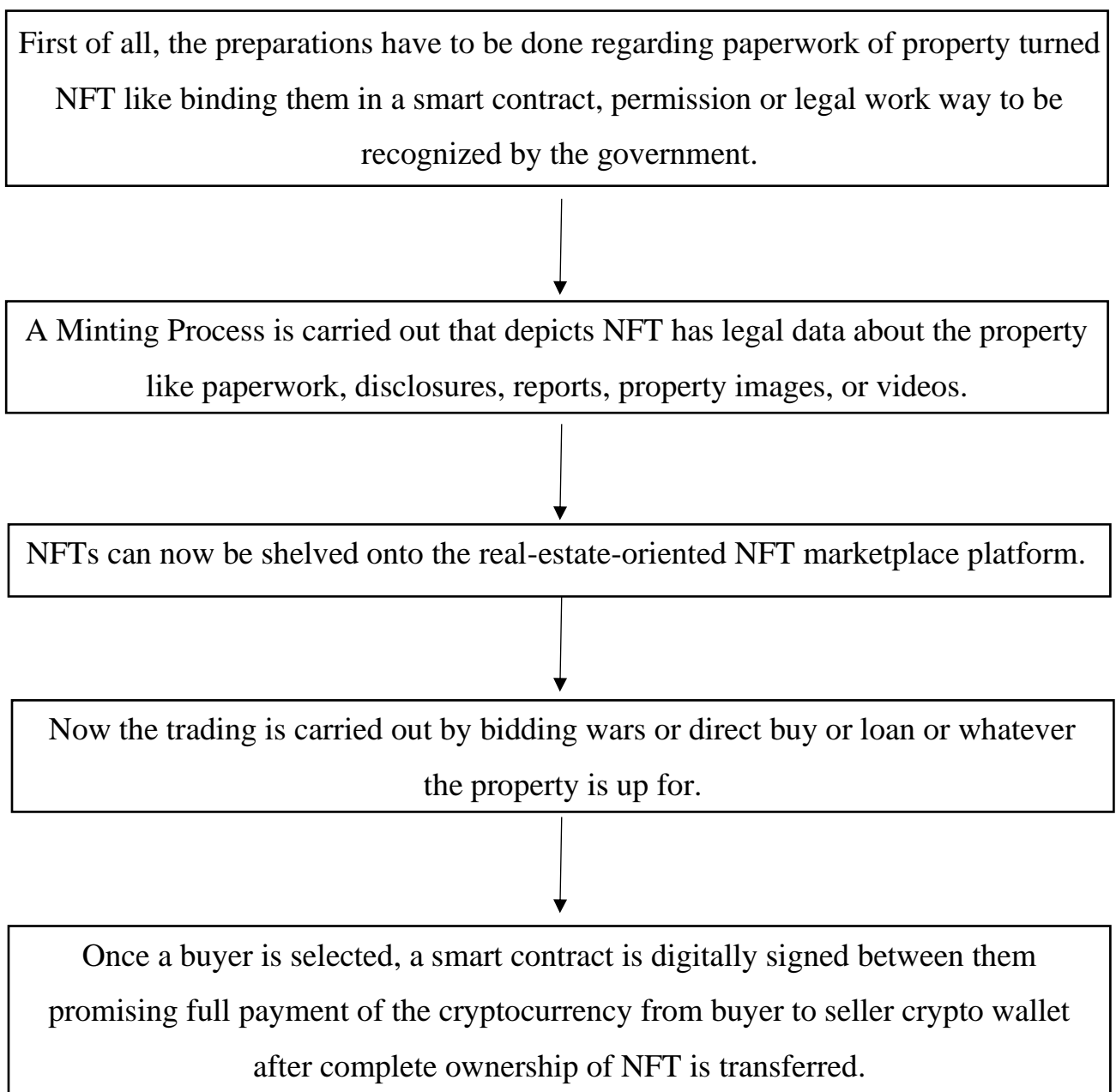


Figure 2.2. How works real estate NFT step by step.

How to develop your own NFT real estate marketplace by seven steps?

Now it is possible to develop your own NFT real estate marketplace.

First step. You should analyze your needs and those of your investors in relation to the real estate NFT market. Typical NFT real estate marketplaces are smart listings and auction portals.

The second step is market research in the regions you want to target your new business. Market research can be done through competitor analysis, public data, etc.

Third step. At this stage, carefully review the original plan to detect errors and flaws, and finalize the plan on paper before proceeding with development.

Fourth step. In order to make the platform seamless, we are doing a front-end development where the NFT real estate market UI and user experience features are built.

Fifth step. We will then proceed with back-end development, designing features related to the security and robustness of the new NFT real estate market and anchoring them on the blockchain network.

Sixth step. Next comes an important step in testing. Here platform errors should be tested again and again and fixed quickly in order to finally get rid of such errors.

Seventh step. Deploy the NFT real estate market platform on your server and launch it publicly. Be sure to upgrade regularly to stay current.

### **3. MONITORING DEALINGS BY CRYPTOCURRENCY**

#### **3.1. Deal with Australian House in world-first cryptocurrency auction**

A beach house located in New North Wales will be put up for auction on a cryptocurrency exchange for the first time in the world in 2019. Building tenders was held alive.

The sale of the building, called the Jetson House, will be in bitcoin only, with an on-screen online conversion system that automatically converts the Australian and US dollar equivalents. The cost of the building is estimated at 700-800 bitcoins, or \$3.5 million. This unusual way of selling real estate will open up opportunities for more buyers abroad, not only Australian buyers.

The two-story building was built in a futuristic style of concrete, steel and tinted eco-glass. On the territory there is a football field, a ground trampoline, a private beach, as well as a heated pool, follows from the publication. [36]

#### **3.2. NFT deal with apartment in Kyiv**

Real estate platform Propy sold an apartment in Kyiv, which was owned by Michael Arrington, the founder of the online publication TechCrunch and hedge fund Arrington XRP, at an NFT auction. The initial price of the lot was 7.81 Ethereum, or \$20 thousand, during the 24-hour trading process 43 bids were made, and the total sale amount was 36 ETH (\$93.4 thousand).

How NFT Real Estate Auctions Work? NFT (non-fungible tokens) is a non-fungible token (virtual digital unit) in the blockchain network that confirms the right to own a digital asset. The token contains all the information about the product. The token itself is an exclusive right to the product; when buying, selling or exchanging NFTs, the same operations are performed with the product.

The process of selling at an NFT auction works like this. First, the seller signs proprietary legal documents for the NFT to transfer ownership to the prospective buyer, then holds the NFT auction and receives payment in cryptocurrency. The

winner of the auction becomes the owner of the property within one minute after completing the KYC details.

In 2017, Arrington bought a one-room apartment in the western part of Kyiv using blockchain technology. The international transaction took place entirely through a smart contract on the Ethereum blockchain using cryptocurrency. This was one of the first transactions to be sold and transferred on the blockchain.

The apartment has a fresh renovation, it is fully equipped with necessary furniture and appliances. The property is registered as the property of a US company. The new owner of NFT will become the owner of this company and, therefore, will receive ownership of the apartment. This process will be repeated every time the token is resold.

The first auction to sell a house for cryptocurrency took place in Australia in 2019. The cost of the building is estimated at 700-800 bitcoins, or \$3.5 million. [37]

### **3.3. Primary real estate in Ukraine can be bought for cryptocurrency**

The Ukrainian development company DIM announced that it will start selling apartments for cryptocurrency in June 2022. As stated by DIM, at the first stage, four types of Stablecoin will be accepted: USDTC, USDT, BUSD, DAI. Payment options may be expanded later.

It is noted that it will be possible to buy even housing in any complex of this developer for cryptocurrency. Such contracts will be concluded through authorized agents, as well as in accordance with the law of Ukraine, including the adopted law "Virtual Assets".

The decision to allow payment for real estate with cryptocurrency was made based on the fact that, despite the war, Ukrainians remain one of the most active users of this type of asset in the world. In addition, cryptocurrency payment is already available in other areas of business.

Individuals sell and buy property - movable and immovable - with the help of cryptocurrency, therefore, such a service for the purchase of primary real estate remained a matter of time for a long time.

The DIM company, which was the first to introduce such an innovation, promises that the procedure for concluding an agreement will be clear and safe.

The developer is going to make this the first step on the way to the application of the Web 3.0 ecosystem. This is the so-called third generation Internet, one of the principles of which is decentralization.

In the future, the company plans to replace paper contracts with smart contracts, so that ownership agreements will be converted into the format of non-fungible NFT tokens, as well as record all agreements on the blockchain. This will make it easier for each buyer to access transaction information and ownership rights for each property. [38]

## CONCLUSIONS

In the conditions of a modern market economy, the real estate market is possible to characterize from three positions:

1. As a field of capital investment in real estate objects and the system of economic relations arising during real estate dealings. Such relations are revealed between investors in the process of buying and selling real estate, mortgages, leasing.
2. As a sphere where real estate objects act as special goods.
3. As a service market that creates conditions for life and human life support in all the diversity of their properties and found out

Thus, the real estate market is an integrated category characterized by features of investment, goods and services markets.

The most common point of view is the real estate market as a variety investment market. In this regard, it is customary to distinguish certain signs that confirm the existence of structural dependence of the real estate market with investment market:

- availability of investor-sellers and investor-buyers;
- use of tools for reconciliation of interests of sellers and buyers;
- existence of economic relations between sellers and buyers;
- the economic relationship between cost and consumer value goods;
- the presence of potential consumers interested in a certain product;
- receiving income from the investment object;
- the need for management to obtain income.

It should be noted that real estate needs more than other assets effective management for profit. It follows that for the most investors, real estate as an investment object is quite a complicated asset, and for those of them who have

sufficient knowledge in the field of management real estate, it can be an investment object that will allow you to get higher profit compared to other objects of capital investment.

On the one hand, real estate can be considered as a part of the general investment portfolio, which allows to reduce the overall risk investment, on the other - as an independent asset. Under such conditions, the purchase of objects real estate is not just the purchase and sale of goods, but the movement of capital, and value that brings profit.

Taking all these statements into account, we can take conclusion that the real estate market has its own essential, subjective characteristic structure and acts as an integrated category that is characterized by the features of markets goods, investments and services. In general, have tendencies to digitalize dealing sphere and expand variations of objects.



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# ANNEXES

## Annex A

### SUMMARY

Karas A.V. International real estate market: tools and development trends for asset diversification – Masters-level Qualification Thesis. Sumy State University, Sumy, 2022.

The essence of the international real estate market was investigated in the work. The world real estate market, tools, trends. Processed the basic definitions of the real estate market, identifying its patterns, tools and trends, particular some instruments of asset diversification, as development, mortgage lending, investment, and NFT smart-contracts.

Keywords: real estate, international real estate market, development, investment, mortgage lending, NFT dealings in the real estate market, smart contracts in the real estate.

### АНОТАЦІЯ

Карась А. В. Міжнародний ринок нерухомості: інструменти та тенденції розвитку для диверсифікації активів – Кваліфікаційна магістерська робота. Сумський державний університет, Суми, 2022 р.

У роботі досліджено сутність міжнародного ринку нерухомості. Світовий ринок нерухомості, інструменти, тренди. Опрацьовано основні визначення ринку нерухомості, визначено його закономірності, інструменти та тенденції, зокрема інструменти диверсифікації активів, такі як девелопмент, іпотечне кредитування, інвестиції та смарт-контракти NFT.

Ключові слова: нерухомість, міжнародний ринок нерухомості, девелопмент, інвестиції, іпотечне кредитування, NFT угоди в нерухомості, смарт-контракти в нерухомості.