

Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Economics



DIPLOMA THESIS

**Comparative Analysis of Real Estate Markets in the Russian Federation
and the Czech Republic**

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CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

DIPLOMA THESIS ASSIGNMENT

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Economics and Management

Thesis title

Comparative Analysis of Real Estate Markets in the Russian Federation and the Czech Republic

Objectives of thesis

The main aim of this diploma thesis is to evaluate real estate markets in the Russian Federation and Czech Republic, compare them to each other.

The thesis includes market review in both countries and the identification of factors which affect the real estate market mostly (such as an economic crisis). Also, comparative analysis is done for similar types of properties.

Methodology

The whole work consists of two parts: theoretical and practical.

The theoretical section is a gathering data based on literature review. The main methods for this part are deduction, induction, extraction and synthesis.

The second section is an analytical part. The main methods which are used for this part are qualitative methods such as description and quantitative methods such as processing, data collection, economic analysis. An analysis of external factors, as well as correlation, statistical analysis and numerical methods are also used.

The proposed extent of the thesis

60 pages

Keywords

real estate, market, properties, Russia, Czechia

Recommended information sources

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Comparative Analysis of Real Estate Markets in the Russian Federation and the Czech Republic

Srovnávací analýza trhu nemovitostí v Ruské Federaci a České Republice

Summary

The aim of the thesis is to observe theoretical fundamentals of real estate market and its functions, to detect factors which influence the real estate market the most, and observe the situation of the real estate markets in the Russian federation and the Czech Republic.

The first part of work deals with the theoretical aspects which are considered to be the definition of real estate market in general. Basics of mortgage markets, its objects and subjects and consequences of world mortgage crisis were considered. The theoretical part is written by the method of the analysis of literature, articles and online sources.

The practical part is devoted to the analysis of real estate markets in certain countries which are the Russian Federation and the Czech Republic. To make it more precise for the analysis were chosen two capital cities - Moscow and Prague. Basic economic overviews of the countries together with the indexes of factors influencing real estate market (GDP, Inflation rate, etc.) were researched. Besides, the analysis of housing in most expensive parts in both cities was provided. In the analysis types of apartment, size, price per square meter, and price of apartment were taking into account. In the end the comparison of cities were made and the important ratios such as Price to Income Ratio, Price to Rent Ratio, Gross Rental Yield, were counted and analysed. Finally, strengths and weaknesses of the real estate markets in both countries have been identified.

Key words: real estate, market, properties, Russia, Czechia

Souhrn

Cílem této diplomové práce je sledovat teoretické základy trhu s nemovitostmi a zjistit faktory, které nejvíce ovlivňují tento trh a následně porovnat situaci v realitách v Ruské federaci a České republice.

První část práce se zabývá teoretickými aspekty, které se obecně považují za definici trhu s nemovitostí. Byly zvažovány základy hypotečních trhu, jejich předměty, subjekty a následné důsledky světové hypoteční krize. Teoretická část používá pro vyhodnocení metody analýzy, literatury, články a online zdroje.

Praktická část je věnována analýze realitních trhu v zemích Ruské federace a Česku. Pro přesnější analýzu byly vybrány hlavní města těchto zemí tedy Moskva a Praha. Byly zkoumány základní ekonomické ukazatele zemí spolu s indexy faktorů ovlivňující trh s nemovitostmi jako DPH, inflace a jiné. Kromě tohoto byla provedena analýza nejdražších částí v obou městech. Dále byly do analýzy zahrnuty ukazatelé jako - typ bytů, velikost, cena za metr čtvereční. Jako poslední bylo provedeno srovnání měst, kde byly porovnány parametry cena/výnos, poměr cena k pronájmu, hrubý výnos nájemného. Poslední část obsahuje zjištění silných a slabých stránek trhu s nemovitostmi v těchto zemích.

Klíčová slova: trh nemovitostí, trh, majetek, Rusko, Česko

Declaration

I declare that I have worked on my diploma thesis titled "Comparative Analysis of Real Estate Markets in the Russian Federation and the Czech Republic" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the diploma thesis, I declare that the thesis does not break copyrights of any their person.

In Prague on 29.03.2018

Ksenia Timasheva

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1. Introduction

In the any social system, a special place in the system of social relations is occupied by a real estate, which is in one way or another has a connection with life and activity of people in all spheres of business, management and organization.

Real estate objects are not only the most important commodity that satisfies the variety of personal needs of people, but also is the capital, which is bringing an income. Investments in the real estate are usually investments for profit.

The market is a set of subjects of relations and the exchange of goods and services (sellers, buyers, and intermediaries) and socio-economic relations between them. The state and trends of the real estate market depend on the degree of development of the entire economy, the features of its individual stages. Due to the specific attributes of real estate, the real estate market differs significantly from the other sectors of the market economy. The real estate market is a market of goods with individual characteristics.

There are many factors affecting the real estate market, such as economic, historical, political, social, and geographical. The most important from them are described in the diploma thesis such as GDP, inflation rate, exchange rate etc.

In the thesis, all these aspects of the real estate market in two countries – the Czech Republic and Russian Federation- are considered. Different parts of cities (Moscow and Prague) are analysed and the prices, location and other important factors of both residential real estate and municipal are described.

2. Objectives and methodology

2.1 Objectives

Among the aims of this diploma thesis is to evaluate real estate markets in the Russian Federation and Czech Republic and define which is more successful. The thesis includes market review in both countries and the identification of factors which affect the real estate market the most (such as an economic crisis and sanctions).

One of the main goals is to compare real estate markets in chosen cities in Czech Republic and the Russian Federation (Prague and Moscow). To make a comparison, properties with the same characteristics and criteria were chosen and some important ratios such as price to income ratio, price to rent ratio, gross rental yield and others have been counted.

2.2 Methodology

The theoretical section includes gathering data based on literature review. The purpose of this part is to define the place of the real estate market in the world, taking into consideration supply and demand of selling properties, classification of selling properties and types of ownership. Also, in this part have been determined main factors which may affect real estate market in general.

The practical or analytical part is to make an analysis based on the data collected in the first part. Qualitative methods such as description and quantitative methods such as processing and economic analysis will be used. The analysis of chosen certain cities in both countries helped to make more accurate analysis. A big point in this part is researching of current economic situation in both countries and making a real estate market overview. After the research, the identification of factors which influence the real estate market the most in the Russian Federation and Czech Republic (especially GDP, inflation rate, exchange rate and average salaries will be considered).

As a conclusion of research analysis with synthesis of both parts, the comparison of real estate markets in Czech Republic and the Russian Federation has been presented. Advantages and disadvantages for both countries have been identified and important main factors for future development were considered.

3. Theoretical part

3.1. Real estate

The real estate is any property consisting of land, as well as buildings and structures on it. Things which are not related to real estate, including money and securities, are recognized as movable property. Thus, the distinctive feature of real estate is its inextricable link to the land (while in itself, land is also considered as a property), which in turn implies its significant value. Outside of the connection with land, immovable objects lose their usual purpose and accordingly decrease in price. (Asaul, Karasev, 2001)

In everyday life, the term "real estate" seems quite understandable. In reality, external visibility does not coincide with the legal idea of real estate, which is largely determined by the peculiarities of the countries' economic development, established historical traditions and other conditions. (Demidkova, 2007)

Real estate can be divisible and indivisible. Divisible is property which can be divided into shares without breaking its essence and each of its shares after the partition represents an entire immovable thing. (Grinenko, 2004)

The geographical concept reflects the physical (technical) characteristics of the real estate: construction and material of buildings, size, location, climate, soil fertility, improvements, environment and other parameters. The economic concept considers real estate as an effective object of investment and a reliable tool for generating income. The main economic elements of real estate - value and price - primarily arise from its usefulness, ability to satisfy different needs and interests of people. At the legal level, real estate is a set of public and private rights established by the state, taking into account domestic peculiarities and international norms. Private rights may be indivisible or partial (joint property) and divided into underground resources, the surface of land plots, buildings on them and in the airspace. The social role of real estate is to meet the physiological, psychological, intellectual and other needs of people. (Asaul, Karasev, 2004)

Real estate has an increased economic value. This is due to the fact that it is intended for long-term use and is not consumed during using. As a rule, it has a constructive complexity that requires high costs to keep it in the proper condition. From the economical point of view, a real estate object can be viewed as a benefit and as a source of income. (Grinenko, 2004)

Real estate is always an object of long-term investment. Most often this is due to the fact that the acquisition of the property in parts is not possible, because for investing capital in an object of real estate requires a significant amount of it. In addition, if we talk about the revenue side of the case, cash investments in real estate represent a cost with a sufficiently high payback period. (Demidkova, 2007)

3.2. Real estate market and its functions

A market is a mechanism or an institution for making contacts between buyers and sellers or suppliers of goods or services. Preferences and results of decisions of sellers and buyers form a system of prices for goods, services or resources. These prices serve as reference points, guided by which resource owners, entrepreneurs and consumers make their own free choice, based on their personal interest. (Kovalenko, 2007)

There is labour market, market of financial capital, resources, goods, services, and others. Real estate belongs to the category of goods, at the same time, its circulation on the market is closely connected with attracting financial capital, using various resources and labour. The real estate market is one of the essential components in any national economy. Without a real estate market, there can be no market at all, since the labour market and the capital market alone cannot exist without real estate, because even financial institutions (banks, exchanges, investment companies etc.) should be participants in the real estate market for acquisition or renting premises necessary for their activities. (Goremykin, 2015)

The main real estate market is the land plots and newly created, reconstructed and expandable enterprises, buildings and structures for various purposes, as well as money or financial capital. (Grinenko, 2004)

The development of the real estate market depends on a large number of factors, among which in the first place are demand and supply. The main characteristic of demand is that if all other parameters remain unchanged, a decrease in the price of a product (service) leads to an increase in demand and vice versa. (Goremykin, 2015)

The change in demand depends on such factors as consumer tastes or preferences, the number of buyers, the level of incomes of buyers, the prices of substitute goods. (Shabalin, 2012)

The law of supply is a direct relationship between the quantity of the offered product and the price. That means with an increase in the price, the quantity of the offer

increases accordingly, with a decrease in prices, the supply is reduced. Changes in supply depend on the prices of resources, goods, services; taxes and subsidies; production technology; prices for other goods and resources; expectations of changes in producer prices, sellers; number of sellers. (Shabalin, 2012)

One of the main functions of any market is the establishment of equilibrium of prices, under which effective demand corresponds to the volume of offers. The commercial function is to realize the value and to use value of the property and to make a profit on the invested capital. (Belokrylova, 2009)

The function of sanitation is expressed in the purification of the economy from uncompetitive and weak market participants, bankruptcy inefficient. The market mechanism recognizes only socially necessary investment in real estate, because only they are paid by the buyer. Therefore, freeing the market from inefficient owners of enterprises and other real estate leads to increased stability and economic growth. (Belokrylova, 2009)

Information function is a unique market way of operative collection and dissemination of general objective information, allowing sellers and buyers of real estate feel free, with knowledge to make a decision in their own interests. (Boiko, 2010)

The intermediary function is expressed in the fact that the market acts as a cumulative agent and a meeting point for a multitude of independent buyers and sellers. It establishes a link between them and providing the opportunity for an alternative choice of partners. The real estate market has professional intermediaries such as realtors, appraisers, agents, brokers, insurers, mortgage lenders and other persons providing services to interested parties. (Belokrylova, 2009)

The investment function implies that the real estate market is an attractive way to save and increase the capital. It promotes the transfer of savings from the passive form of stocks to real fixed assets, which brings income to the owner of real estate. At the same time, the real estate itself serves as a kind of insurance guarantee for investment risks. (Boiko, 2010)

Social function is manifested in the growth of labour activity of the whole population, in increasing the intensity of labour of citizens seeking to become owners of apartments, land plots and other capital and prestigious facilities. The other by product is that the investor in real estate asset will have a vested interest in the positive outcome of the community or the local real estate market. (Boiko, 2010)

The redistributive function is the repeated redistribution of enterprises, land plots, buildings and structures among various market entities on the market, which ultimately determines the transfer of these objects to effective strategic investors, ensuring their high-performance use. (Belokrylova, 2009)

Without the real estate market, there cannot be a market, in the usual sense, because the labour market, the capital market, the market of goods and services - directly depend on the availability of real estate and the willingness of representatives to allocate those redistribute assets to encourage investor interest. (Boiko, 2010)

3.3. Division of properties

The using of different classifications of real estate for a variety of characteristics and criteria increases the effectiveness and objectivity of the process of real estate market research. With the help of such classifications, the development of methods for valuing real estate and their application is facilitated and simplified. When classifying a group of real estate, which are identical in functional terms. This approach contributes to an objective assessment of real estate. (Works.doklad, 2015)

The types of classification are:

- According to the purpose of use:
 - for business purposes
 - for residence purposes
 - for investments

- According to the degree of readiness for operation
 - in operation
 - requiring construction
 - construction

- According to the degree of reproducibility
 - non-reproducible: land, mineral deposits
 - reproducible: buildings, perennial plantations

The classification of real estate according to the purpose of use is the most important for this diploma thesis.

3.3.1. Types of property according to purpose of use

Real estate is divided into groups according to the purpose of use:

- Residential properties
 - House
 - Apartments
- Commercial properties
 - Office buildings
 - Retail stores
 - Hotels
 - Medical centres
- Industrial properties
 - Factories
 - Logistic centres
- Agricultural properties
- Specific purpose
 - Church
 - Prisons
 - Libraries

For this diploma it is important to consider residential properties and search them deeper.

3.3.2. Residential properties

The need of housing is one of the most important physiological needs of people. Residential real estate is designed to meet this need. The turnover of housing is one of the essential parts of the real estate market. (Borisenko, 2004)

The housing market carries a special social burden. The availability of housing and its accessibility to the population directly affect the quality of life, the birth rate and the rate of population growth, reflecting on its economic culture, since the purchase of housing

requires considerable money, and the purchase is usually preceded by a long period of accumulation. (Borisenko, 2004)

Residential properties could be divided into:

- elite
- types
- urban
- out-of-town (Panfilov, 2010)

Two main parts of residential properties are apartments and houses.

Apartments

Apartments are residential premises in an apartment building, which has the status of residential, having a separate, that is, and an independent real estate object. Under the apartment is often meant also the allocated share in the residential private house, as well as simply the place of temporary accommodation (quartering). (Domatoot, 2016)

Size of apartments is defined for square meters of floor area with balcony or terrace. Exist those types of apartments such as 1+1 (room and kitchen), 2+1 (two rooms and kitchen, respectively), 2+kk (room + room with kitchenette), 3+kk (two rooms and room with kitchenette, respectively). Small apartments called studio apartments.

Houses

House or cottage is a single-family individual urban or rural house with a plot of land. It has all the amenities and additional options for improved living and recreation. Cottage - the traditional type of English dwelling, spread in European countries and the US, usually has 2 floors. (Realitymag, 2017)

Advantages and disadvantages of apartments and houses are pretty obvious. It is not difficult to rent or even buy apartment comparing to houses because of the price and accessibility. At the same time there is more privacy and space if you live in a private cottage or house than in apartment. (Sevostyanov, 2008)

3.3.3 Types of ownership

In the traditional sense, property is interpreted as "a legal concept that legislatively fixes the regulation of property rights in various relationships." (Iohin, 2006)

Property as an economic category is a certain type of economic relations. There are two relatively stable types of property relations - the relationship between public and private property. (Iohin, 2006)

Property is a set of rights that can be distributed among different people or concentrated in the same hands:

1. Ownership (demesne)

The primary component of property, based on the law, physical control of the object, the ability to have it by yourself, on own balance sheet, etc., the actual possession of the object. It creates the necessary prerequisites for the realization of the other two powers - exploitation and disposal. You can own an object of real estate, but do not use it. Exploitation of property which you do not own is impossible. (Gavrelyuk, 2008)

2. Exploitation of property

The exploitation of the property object in accordance with its appointment at the discretion and desire of the user or owner, the extraction of useful properties or income from the object. Ownership and exploitation can be combined in the hands of one subject or divided between different parties. (Gavrelyuk, 2008)

3. Disposal of property

This is a comprehensive, higher way of realizing the relationship between the object and the subject of property, i.e., this is the right to decide how and by whom the property itself and the income derived from it can be used; determination of the legal fate of the property. That means that the owner of the property not only owns and uses the property, but also disposes of it for the purposes and limits that do not violate the rights of the owner of the restrictions established by the legislation. (Gavrelyuk, 2008)

Private property

Private property is one of the forms of ownership, meaning the absolute, legally protected right of a particular person to a particular property. (Grishaev, 2007)

Private property for housing is considered to be real estate in the housing sector, owned by citizens and legal entities. Private property for real estate is not limited in size, value and quantity, is ensured by the right of immunity and is subject to compulsory registration in state bodies. (Sukhanov, 2005)

The purchase or sale of housing must be secured by a contract of sale. Under the contract of purchase and sale of real estate, the seller undertakes to transfer it to the buyer's property. The form of conclusion of the contract for the sale of real estate is only written.

The contract is signed by the parties and is subject to state registration, from the moment of which the contract is considered to have entered into force. In the contract for the sale of real estate should be provided for the price of the object of sale. (Sukhanov, 2005)

Private property can be individual (owned by one person) and common. The common property arises when two or more people enter into the ownership of one piece of real estate. Most of the former state and municipal housing is in the common ownership of citizens residing in it; quite often apartments are inherited by several people; cases of joint housing acquisition are widespread. (realto.ru, Belova, 2012)

Cooperative property

Cooperative ownership is a kind of collective property, the property of members of the collective who voluntarily united for joint activity in any sphere on the basis of joint use of material and monetary resources. Cooperative ownership can take various forms: develop in combination with state property, lease relations, act in the form of manufacturing enterprises, housing, credit cooperatives, consumer cooperatives, cooperative banks, etc. (Makarenko, 1993)

There are two types of cooperative societies: workers' cooperatives (or producer cooperatives) and consumer cooperatives (retail cooperative cooperatives). (Abova, 1998)

Workers' cooperative is voluntary association of people on the basis of membership for joint production activities, based on their personal labour and other participation and association by its members. Workers' cooperatives are a commercial organization. The constituent document of workers' cooperatives is its charter, approved by the general meeting of its members. The number of members of cooperatives should not be less than five. Property owned by workers' cooperatives is divided into shares of its members in accordance with the charter of the cooperative. The cooperative is not entitled to issue shares. A member of a cooperative has one vote in making decisions in a general way. Profit is divided among employees according to the established agreement. (Abova, 1998)

Owners of consumers' cooperatives are actually consumers - those people who buy goods, but do not produce them. (Abova, 1998)

In accordance with civil law, the ownership of property belongs to the cooperative as a whole as a legal entity. The property of the cooperative is indeed under the management, using and disposal of the members of the cooperative, but not as a labour collective, but as participants in the supreme management body of the cooperative - its

general meeting, in which each member of the cooperative has one vote in making decisions, i.e. an equal right to manage this property. Thus, the property of the cooperative, remaining in private form, is in the collective management (and not under the ownership) of its employees. (Abova, 1998)

Public property (state, municipal property)

The property constituting the state property is intended for satisfaction of public interests of the owner of property-state, its bodies and services, local government bodies. (Gaidaenko, 1994)

The state authorities control state property. Protection of property rights to this property they carry out in the manner established by administrative and civil legislation. The property belonging to provinces and communes is subject to the same regime as other state property. The same legal regime applies to communal markets and cemeteries. State property includes state, provincial and communal property rights belonging to other persons, in cases where this property is necessary to achieve the objectives of public interest. (Gaidaenko, 1994)

Parts of the public property are:

- forests, mines, quarries and peatlands, deposits being developed;
- objects found in the earth and representing historical, archaeological, paleontological or artistic value;
- armament, military aircraft and ships.

The property of the state, provinces and communes includes buildings intended for placement of state institutions in them, as well as other property intended for the performance of public service. Plus, the state owns the ownerless property. (Shupyro, 1997)

Transfer of property from the state of the public domain to state ownership on the basis of a statement made by a government agency. The notice of such transfer of property is published in the official publication. The transfer of part of the public domain to the property of the provinces is brought to the attention of the public in accordance with the rules established by the regulations of communes and provinces. (Shupyro, 1997)

3.4. Construction investments

An investor is a person who invests in real estate. He is characterized by the tax status, objectives, type of property, which it is expected to be interested in, the amount of own funds that it can invest in the purchase of the facility, and the terms of the available credit financing. (Kiseleva, Borovikova, 2005)

Investments are a long-term asset for the future improvement of the investor's welfare. It is understood that the main purpose of the investment is to achieve the result (increase in well-being), expressed in monetary terms. One of the types of investment in real assets is real estate investment. (Kiseleva, Borovikova, 2005)

The investment attractiveness of a property is easily calculated. Mathematically, it is determined by the ratio of the investment and market value of the object (at investment value we understand the price for which the building can be sold when the right moment comes). The degree of attractiveness is influenced by the following factors: the risks to be faced, the degree of demand, the ratio of projected results and costs, the level of competition, the duration of the project, and the need for capital. (Tsogoev, 2006)

At the same time the investment value of the property is influenced by few other factors:

- Precipitousness of the neighbourhood
- Social environment
- Infrastructure: transport and social
- Ecological situation in the area. (Alekseev, 2007)

Also important are factors such as architectural and constructive and volumetric-planning solution, as well as the technical condition of the building and the characteristics relevant to the facility itself:

- The architecture and individuality of the project
- The external attractiveness of the house
- Planning solutions for apartments
- Ceiling height
- Species characteristics from the windows of the apartment
- Presence of loggias, balconies
- Stage of construction, the date of delivery of the object. (Alekseev, 2007)

The least dangerous risk for the real estate market is the risk of inflation. In this sense, work with objects under construction is unique. The more intensive the prices creep up, the greater the gap between market and investment value, and hence the greater the benefit for the investor. (Friedman, 1989)

Obviously, the need for such a product, as investment construction projects, arose at the peak of growth in demand and property prices. Strictly speaking, it is a product oriented to the realization of the idea of capital investment in the projects under construction. In the most prepared and interesting form for an investor, it represents land for building in a long-term lease or ownership, an approved project of a building or structure and a valid building permit. (Chernov, 2007)

Depending on the point of entry into the project, the investor can participate from the zero cycle (carries all the risks associated with the acquisition and preparation of land and permits) or connect to the project at the stage when it is sure that it will solve all legal and administrative issues by himself. (Khonko, 2003)

3.5. Mortgage market

Mortgage - pledging land or other real estate for the purpose of obtaining a monetary loan - a mortgage loan. Mortgage is a way to ensure the obligation when the subject of mortgages is real property. Mortgage involves the full or partial payment of rent in the form of interest on a mortgage, which is the essence of the mortgage: land, residential and any other real estate that brings an annuity. (Kirienco, 2007)

3.5.1. World mortgage market

The mortgage market occupies a unique position in the national economy and represents a complex mechanism consisting of interrelated and interdependent subsystems (real estate purchase transactions, a complex of operations for issuing and servicing mortgage loans, and securitization of mortgage assets). (Afonina, 2008)

The mortgage market is divided into primary and secondary. In the primary market, mortgage loans are issued and can be sold. In the secondary market, there is a sale of the rights to receive interest income on loans through the issuance of special securities, the acquisition of which grants this right. Such securities have different qualitative characteristics, such as the presence of credit risk, the degree of provision of a mortgage

pool, etc. Rapid development of the stock market and modern possibilities of financial engineering constantly bring to life new types of such securities. (Kosareva, 2007)

The implementation of long-term loans is possible thanks to an organized system of mortgage lending. The system of mortgage lending is a model of the organization of interaction between the mortgage lending market, the real estate market and the financial market. When forming a national mortgage lending system to the government and mortgage lenders, due to the long term of investing in mortgage assets, it is necessary to decide how to refinance the funds used for mortgage lending in order to issue new loans. All methods of financing mortgage operations are divided into universal (inherent in other types of financial and credit operations) and special methods that are characteristic only (or predominantly) for the mortgage market. (Afonina, 2008)

Mortgage lending has a significant impact on the real estate market. The development of mortgage lending, the growth of mortgage loans, the reduction of interest rates significantly expands the demand for real estate. This, in turn, can lead to an increase in the value of real estate. The rise in the value of real estate leads to a reduction in demand for housing, however, the expanded offer of mortgage loans smooth this trend. (Belykh, 1999)

Comparison of different approaches to the organization of a mortgage loan system shows that the main difference in developed countries in the organization of the mortgage market is the formation of various mechanisms for attracting resources for the issuance of mortgage loans. (Nazarov, Koroleva, 2007)

There is a model of mortgage lending based on targeted savings. Sources of credit funds are mostly demand accounts and term deposits of both individuals and legal entities. The funds of citizens accumulated in deposit accounts in specialized savings institutions for the purpose of purchasing housing in the future are used to finance the issue of mortgage loans to borrowers ready to buy housing at the moment. (Nazarov, Koroleva, 2007)

Experts express an opinion on the need to create and consolidate a full-fledged secondary mortgage market, when the attraction of resources is carried out in the capital market, which is usually carried out by creating an institution of the secondary market. Its purpose is to purchase mortgage loans issued by banks, or to refinance these loans in some other way. (Nazarov, Koroleva, 2007)

The proposal in the mortgage market is created by banks (universal, cooperative and mortgage), savings and loan organizations, credit unions, insurance companies. The share of a financial institution in the mortgage lending market largely depends on the historical experience of building a national mortgage lending system, including the mechanism for financing housing mortgages, and current market trends. (Shamonova, 2007)

Mortgage Bank is a credit organization specializing in issuing long-term mortgage loans secured by real estate (land, various buildings and other real estate objects). The resources of the mortgage bank are made up of own savings and funds received from the sale of mortgage bonds - long-term securities issued for real estate and bearing a fixed interest. (Samokhina, 2007)

Depending on the object of lending, credit policy and organizational structure, each bank determines the technology of mortgage lending. With the multivariate nature of the various elements of the organization of the lending process, it is possible to establish in all banks the existence of the following five main stages in the technology of issuing and repaying a mortgage loan:

- preliminary consideration of the application for a loan and an interview with the prospective borrower;
- underwriting;
- making a decision on granting a mortgage loan;
- execution of a loan agreement and a pledge agreement;
- credit support and control over the execution of the loan agreement. ()

At the first stage, the bank clarifies the borrower the conditions for issuing a mortgage loan and proposes to fill in an application for it, which can essentially be viewed as a questionnaire containing information of interest to the bank in terms of minimizing the risks associated with lending. (studbooks. net, 2016)

The second stage is to assess the potential ability of the borrower to take out a loan and assess the extent of its collateral. At this stage, the specialists of the bank or the firm assessing the collateral, the legal service and the security service of the bank are appreciating. The results of the analysis are used to determine in the future the amount of the loan, the possible initial contribution of own funds and the preliminary maturity of the loan. For these purposes, the following incomes are considered: wages, bonuses, income in the form of commission, income in the idea of dividends and interest, pension payments,

income in the idea of rent, etc., as well as financial obligations: housing payment, utility payments, taxes, insurance payments, earlier accepted promissory notes, medical insurance, etc. (Studbooks, 2016)

At the third stage, the credit committee examines the materials received in the underwriting process and examines the relevant documents, after which it makes a decision on granting a loan or refusing to present it. At the fourth stage, the bank enters into a loan agreement with the borrower. (Studbooks, 2016)

At the fifth stage, a loan is escorted, which includes: - the issuance of a loan in the manner provided for in the loan agreement; - control over the targeted use of the loan in the period of construction or reconstruction of lending facilities; - monitoring the safety and condition of the pledge taken to secure the loan; - control over the regular, in accordance with the terms of repayment of the loan and accrued interest, previously agreed upon at the time of conclusion of the contract. (Studbooks, 2016)

In case of violation of the maturity of the loan and payment of interest, banks in certain cases grant deferrals for the borrower to fulfil its obligations with accrual for the period of using a deferred loan of a higher interest. In case of second violation of the repayment terms of the loan, the loan is transferred to the account of overdue loans, and operations for the realization of the pledge begin. (Studbooks, 2016)

3.5.2. Objects and subjects of mortgage lending

It was noted above that mortgage lending is a special kind of relationship between the recipient of the loan and the person providing the loan, now we consider the subjectively objective structure of these relations. (Loginov, 2005)

The goods (service) in the market is a loan provided for the financing of the acquisition of residential real estate, the collateral of which, together with the future income of the borrower, is a pledge of the acquired (sometimes other) housing. The main characteristics of this product, like any other loan, are: loan period, interest rate (its size and type), loan repayment plan, requirements for the first instalment. The capacity of the mortgage market is determined by the effective demand for mortgage loans from households. (Nazarov, Koroleva, 2007)

The objects of mortgage lending are: land plots, residential premises (apartments, houses, cottages, cottages, etc.), office premises, shopping centres, individual shops and

other commercial services, production facilities (warehouses, factory buildings and research institutes, energy facilities, garages, etc.). (Razumova, 2005)

The subjects of mortgage lending are: a mortgage lender, a borrower (the owner of real estate), an investor, specialized intermediaries, the government. As investors, other credit and financial organizations, insurance companies, pension funds, and also the population can act. Each of the participants in the mortgage market has its own goals, and only with the harmonization of the interests of all participants, the mortgage lending system achieves its best development. (Razumova, 2005)

The main objective of the borrower is to maximize the volume of attracting cheap financial resources for organizing or reconstructing the current production of goods. If you are lending for the purchase of housing for individuals, the main objective of the borrower is to acquire the best possible and cheaper housing, while the borrower must make monthly payments on the loan. (Garipov, 2005)

The task of the bank, i.e. creditor, is to maximize the profits and dividends of its shareholders. Thus, the goals of the bank in mortgage lending are maximizing the profitability of active operations, limiting risks and securing return on loan capital. (Garipov, 2005)

The investor also seeks to obtain the greatest profit by investing his funds in mortgage bonds or securities secured by mortgages. Thus, the investor's goal in using the collateral lending mechanism is to maximize the profit of capital invested in mortgages or securities. (Garipov, 2005)

One of the subjects of lending is the government. The government's objectives in the mortgage market are: capitalization of real estate and ensuring its recoverability, non-inflationary support of the sphere of material production, replenishment of the revenue side of the budget and maintenance of domestic debt, creation of conditions for a reliable and efficient functioning of the mortgage lending system. (Golovin, 2000)

3.5.3. The world mortgage crisis, its causes and consequences

In the history of the economy, the sources of the crisis should be sought in 2006, when unexpectedly for all the house price boom suddenly fell. This trend accelerated in 2007 and became one of the factors in the collapse of the US market, which offered loans to individuals with a bad credit history or those who could not pay an advance payment. And already during February-March 2007, 25 companies that were engaged in the

provision of such loans announced their bankruptcy. It is clear that this immediately had a negative impact on the world stock markets and stock indices. (Padalkina, 2008)

The first half of 2008 was due to the general economic decline in Europe. In the Eurozone as a whole, industrial production fell by 1.9 % in May, the biggest drop since the 1992 crisis. Sales of European cars fell by 7.8 % in May compared to the previous year. The volume of retail sales fell by 0.6% in June compared with May and by 3.1% compared to the previous year. Germany was the only country among the four largest economies in the euro area, which recorded an increase in production in July, although the size of the increase and dropped sharply. In the second quarter, the economy of the euro area decreased by 0.2 %. (Shishkin, 2008)

In early December 2008, the Statistical Office of the European Union reported that the euro area's GDP in the third quarter of 2008 decreased by 0.2%, as in the previous quarter: the European economy entered the recession for the first time in 15 years. (Maslov, 2008)

According to Eurostat data published in February 2009, industrial production in the European Union in December 2008 decreased by 11.5% in annual terms and by 2.3% compared to November, in the euro area - by 12% and 2.6% respectively, which is an absolute record: this has not been observed since 1986, when all-European statistics began to be conducted. (Khazin, 2008)

For a quick and effective solution to the problems of the global financial crisis and the further exit from it requires an effective interaction of financial and political authorities. (Khazin, 2008)

On November 4, 2008, the leaders of the G20 countries gathered for an anti-crisis summit. At the end of the working meeting, the summit participants adopted a declaration containing, inter alia, general principles for reforming financial markets, reorganizing international financial institutions, and an obligation to refrain from applying protectionist measures in the next 12 months (paragraph 13 of the Summit Declaration). (Khazin, 2008)

3.6. Factors that influence real estate market

The most important economic parameters, such as prices, profitability, risks of acquiring or creating real estate, depend to a large extent on demand, supply and their correlation. The balance of supply and demand is one of the determining factors, but it is

not authentic, and, of course, it must be considered in cooperation with all groups of factors. (Tatarova, 2003)

The real estate market is affected by certain factors: economic, political, socio-cultural, natural-geographical, demographic and scientific-technical. So, consider each of these factors in more detail. (Santehnica, 2017)

Political factors are formed by the restrictions imposed on the activity of the real estate market on the part of the policy pursued in the country: This may be a pre-election program, the socio-economic orientation of the ruling party's policy, certain military actions, policies pursued by authorities in the economic sphere, state intervention in the production process and other. (Asaul, 2000)

Economic factors are represented by the economic level of the country's development, the growth rates of the gross national product, the monetary policy of the state, inflation rates, fluctuations in business activity, employment of the population, and the purchasing power of the population. (Asaul, 2000)

Socio-cultural factors include various aspects of the socio-professional structuring of the population, social-consumer aspects, income level, living conditions and much more. **Demographic factors** that influence the activity of the real estate market consist of the number population, population growth, the birth rate and mortality rate, population density, migration, the degree of urbanization of territories and other. (Afonasova, 1999)

Natural and **geographical factors** are the relief, climate, environmental conditions, natural resources etc. **Scientific** and **technical factors** are factors that influence the technology of construction organization. (Santehnica, 2017)

Each of the above factors can affect the real estate market and the conjectural chain "demand - supply - price". The complexity of real estate market analysis is the correct definition of the conjuncture-forming factors, determining the degree of importance and influence on the state of the real estate market. Possible presentation of the processes that will occur in the real estate market under the influence of factors, allows you to build an economic and mathematical model of the state of this market in the future. (Ivanova, 2007)

4. Analytical part

The practical part of this diploma thesis is called case study. In this chapter the most important is to make a comparison of the real estate markets in the Russian Federation and The Czech Republic. Luxury apartments in the most expensive part of both

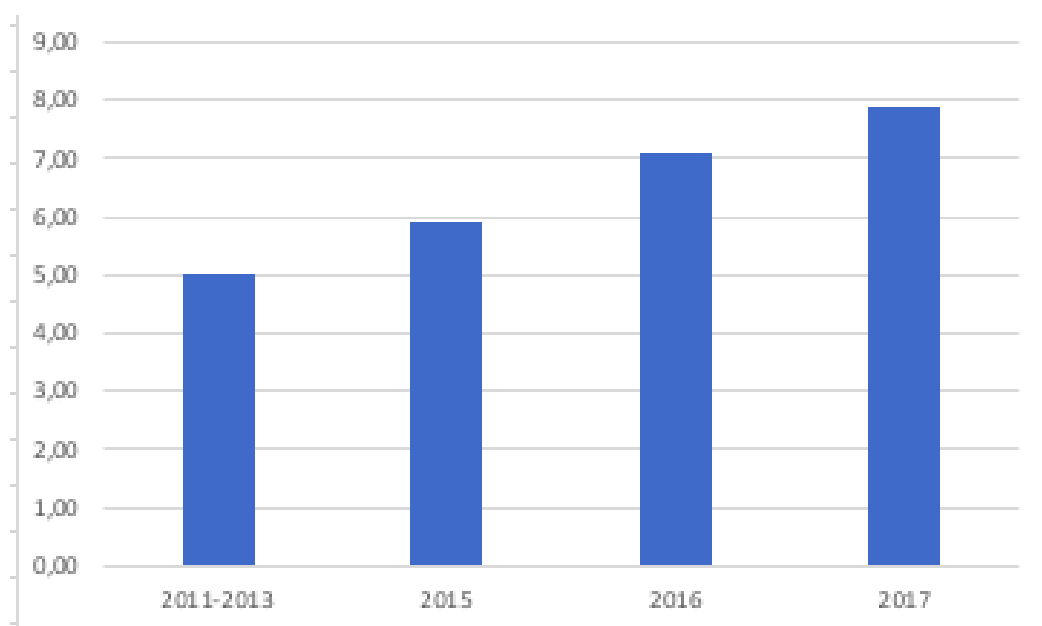
cities were taken and were compared. Such characteristics as location, size, price, layout, balcony, garage, floor, types of ownerships were taking into consideration. Plus, mortgage rates in both countries, economic situation and other important economic indicators were researched.

4.1. The Russian Federation

4.1.1. Real estate in Moscow

Against the backdrop of economic stagnation, the main factor determining the situation in the property market of the capital region remains huge volumes of supply of primary housing. The number of meters put up for sale in Moscow and the Moscow region over the past three years increased by about one and a half times:

Figure 1. The supply of new buildings in Moscow and Moscow region (mln of m²)



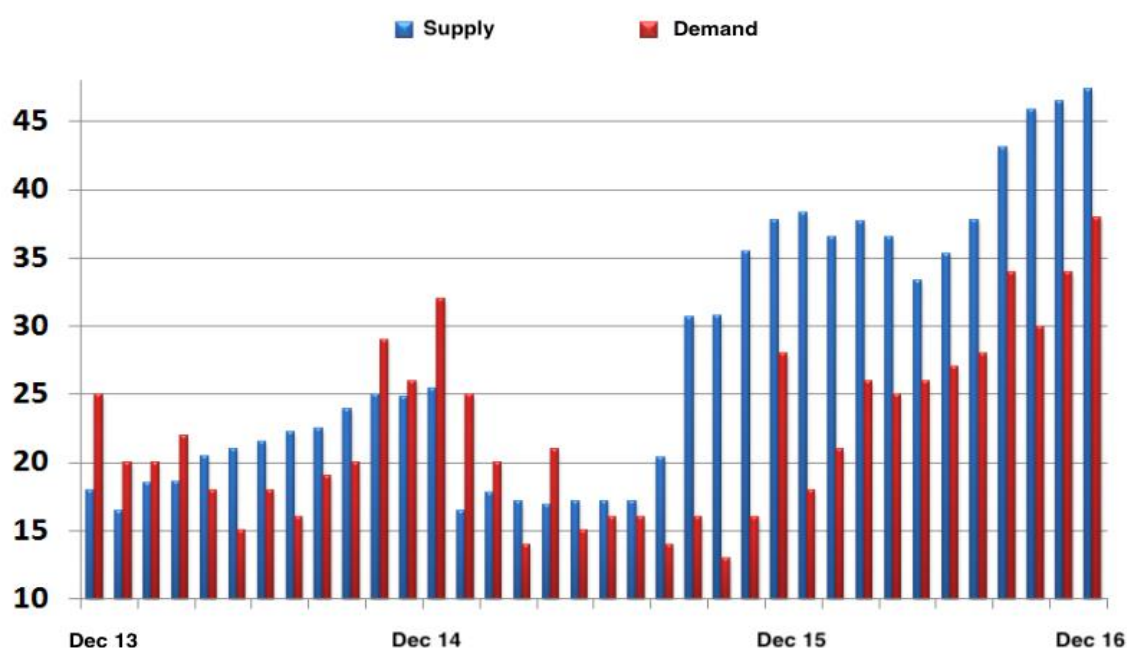
Source: IRN, 2017

Over the past year (from November 2016 to November 2017), the supply of new buildings in Moscow grew by 36% in terms of the number of buildings and 31% in the number of apartments and meters.

At the same time demand in the secondary market still leaves much to be desired: in Moscow, according to Rosreestr, the number of rights transfers for the 10 months of 2017 decreased by 3.1%, in Moscow - by 3.9%. (irn.ru, 2017)

In new buildings, the demand formally grows: in the capital, the number of contracts for equity participation in housing construction in January-October 2017 increased by 55.7% in annual terms, in the Moscow region the number of housing and communal services for housing and non-housing added 0.8%. But this is an average for the market - in the context of individual projects; sales may fall, as demand is not distributed evenly. (irn.ru, 2017)

Figure 2. Supply and demand of real estate in Moscow 2013-2016 (thousand objects)



Source: Gazeta, 2017

Many reasons contribute to lower prices in Moscow. First of all, this is a strong overstocking of the market. Despite the difficult situation in the economy, developers are bringing to the market a lot of new objects, and the capital government launched a renovation program, in the process of implementing which part of the constructed housing will also go on sale.

At the same time, in the current conditions, effective demand has declined significantly and lags far behind the supply. The incomes of citizens do not grow, but the essentials (food, clothes, etc.) are constantly rising, so most people cannot buy an apartment even in a mortgage. According to the world criterion of housing affordability,

according to which the price per square meter should be approximately equal to the average monthly income of the local population, the apartments in Moscow are still substantially overvalued. («Indicators of Real Estate Market in Russia,» 2017)

4.2. The Czech Republic

4.2.1. Real estate in Prague

Many citizens and immigrants from developing countries are coming to Prague and buying properties. Just two years ago it was possible to buy it for affordable price but not so long ago the situation is totally changed.

The average cost of apartments in new buildings in Prague by the end of 2017 increased for the year by 19.1% and amounted to 85,223 kronor per square meter. The number of apartments sold for the year fell by 17.3% - to 5,500 apartments. Such data was provided by development companies Trigema, Skanska Reality and Central Group on the basis of general statistics.

Two years ago, new apartments in Prague could be purchased at a price of up to 60000 crowns per square meter. Now it is only 2% of all apartments. The average price of an apartment in the Prague new building rose to 90 thousand crowns per square meter. It is likely that if demand continues to exceed supply, the average price per square meter in 2018 will exceed 100000 crowns. (Dusan Kunovski, owner of Central Group, 2017)

In the last quarter of 2017, developers in Prague sold 1,450 new apartments. Most of the sales fell on the urban areas of Prague 9 (27%), Prague 5 (22%) and Prague 10 (16%). The least sales were made in Prague 2 (1%).

Proposals from developers rose in price by an average of 21.2% per year - up to 91 537 crowns per square meter.

The market is further hampered by long processes of obtaining permits, which resulted in the issuance of a permit for the construction of only 2,028 new apartments by the end of November. We forecast that the number of apartments sold in 2018 will drop to 5,000, and their price will increase by 3-5%, (Pyotr Mikhalek, Skarska Reality CEO, 2017)

The table below shows how the prices for the real estate raised from the year 2007 to the year 2017:

Figure 3. Prices on real estate in Prague (2007-2017)



Source: CSU, 2017

A turning point in the development of property prices in the Czech Republic came in mid-2015. Since that time, the cost of new apartments in Prague has risen by as much as 53.5%. At the same time, from mid-2013 to the end of the first half of 2015, housing increased by only 2%. The cheapest at the moment are apartments in Prague 4 and Prague 9. In these areas, the average cost of apartments is about 20% below the average. Housing in the centre, in comparison with average prices, is almost 2.5 times more expensive. (idnes.cz, 2017)

For example, in Prague 9 one-room studio apartment can be bought at a price of 2.1 million crowns, but in Prague 1 its cost can reach and 13.9 million crowns. The most expensive option from the entire current offer of developers is a six-room apartment in Prague 6. It costs 1.5 million euros. The number of available apartments in the developers' offer for the year fell by 10% - to 3650. In mid-2015, there were almost twice as many. (idnes.cz, 2017)

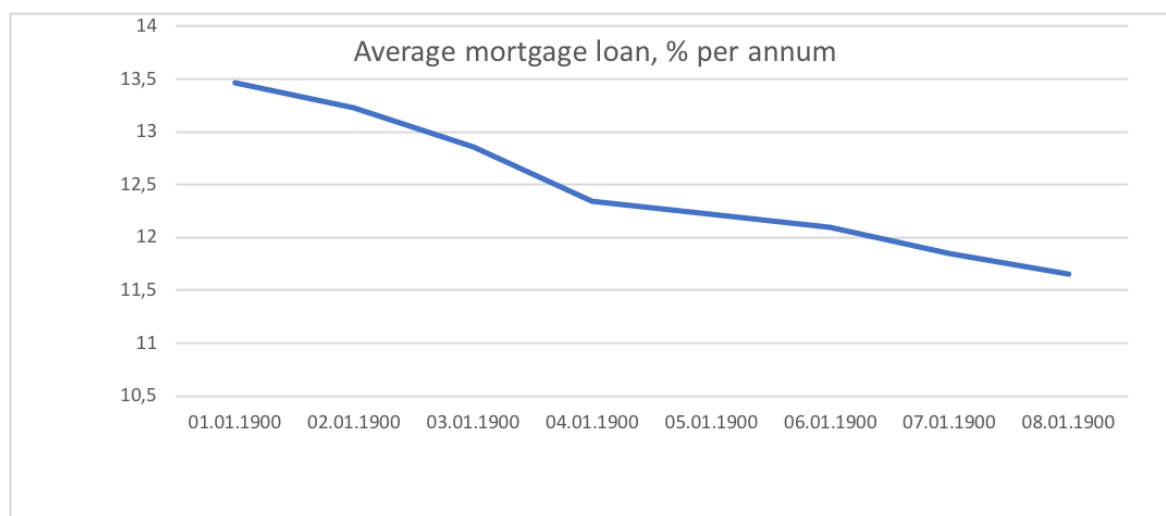
There is a shortage of apartments in Prague. Due to the fact that agencies are afraid or simply do not want to issue permits for the construction of new homes, most buyers have to pay for housing much more than in previous years. And we do not see any progress in this direction. (Marcel Soural, the chairman of Trigema, 2017)

4.3. Mortgage in Russian Federation

Currently, the institutional framework for the development of mortgages in Russia is the federal laws "On Mortgage (Real Estate Pledge)" of 16.07.98. 102, "On state registration of rights to real estate and transactions with it," which established mandatory state registration of the mortgage (the law came into force from 1.02.98).

One of the indices shows that by August 2017 the average interest rate on mortgage loans was 11.65% per annum.

Figure 4. Average interest rate on mortgage loans in Russia in 2017



Source: Banki, 2017

To obtain the index, the data presented on official websites of banks is analysed. In calculations, interest rates used when confirming income by official documents are used, as well as when the borrower purchases comprehensive insurance. If the conditions of the program provide for a commission for reducing the interest rate, the calculation took into account the base rate without paying a fee. All interest rates applicable for different terms and "credit / pledge" relationships are taken into account.

Interest rates continue to decline systematically. In the period from July 14 to August 13, the conditions for lending to the following large banks have changed: Sberbank, Raiffeisenbank, Promsvyazbank. (Dina Orlova, Banki.ru)

The data from the official website of the Central Bank of Russia about the mortgages issued in 2017 year from all available banks:

Table 1. Issued mortgages in Russia in 2017

	Number of issued mortgages	Value of issued mortgages (mln rub)	Loan terms (months)	Interest rate (lowest for 3 month)
1 st quarter	1002427	1.727.463	185 approx.	11,84 %
2 nd quarter	781657	1.412.353	185 approx.	11,61 %
3 rd quarter	1542752	2.810.762	185 approx.	11,28%
4 th quarter	2463030	4.529.860	185 approx.	10,78 %
Total	5789866	10480438		

Source: data - Central Bank of Russia, 2017, own table

As table shows, the interest rate of mortgage loan in Russian Federation is pretty high, but it is still most possible way to buy flat or apartments. Especially in Moscow it is almost impossible for the young or just middle-class families to buy a property without mortgage loan. Of course, there are some discounts and special conditions for buyers from certain class of groups (ex: young families), but still the interest rate is higher and less affordable then in many countries in the Europe.

Currently, real estate experts consider the development of a long-term mortgage lending system as the most promising and almost the only way to solve the eternal "housing issue" in Russia. Thus, mortgage lending is one of the few mechanisms that can trigger the accelerated development not only of the economy itself, but also of many related industries.

4.4. Mortgage in Czech Republic

According to „Hypoteční banka“ Czech people spent 2.5 million crowns on mortgage loan with fixation five years and an interest rate 2.94 % last year.

Mostly there are mortgage loans at 70 % of the security value of the property for 23 years and with an interest rate of 2.94 %. In 90 % cases, the interest rate was fixed for 3 years or 5 years - 6% for 7 years. The highest value of the mortgage loan as well as the average amount of the monthly repayment was as expected in Prague and Central

Bohemia. People lent almost 2.3 million crowns and repaid approximately CZK 8,500 per month.

The data from the official website of Ministry of Local Development of Czech Republic in the table below shows the number of mortgages issued to the citizens (private purposes), entrepreneurs (business purposes) and municipalities in 2017.

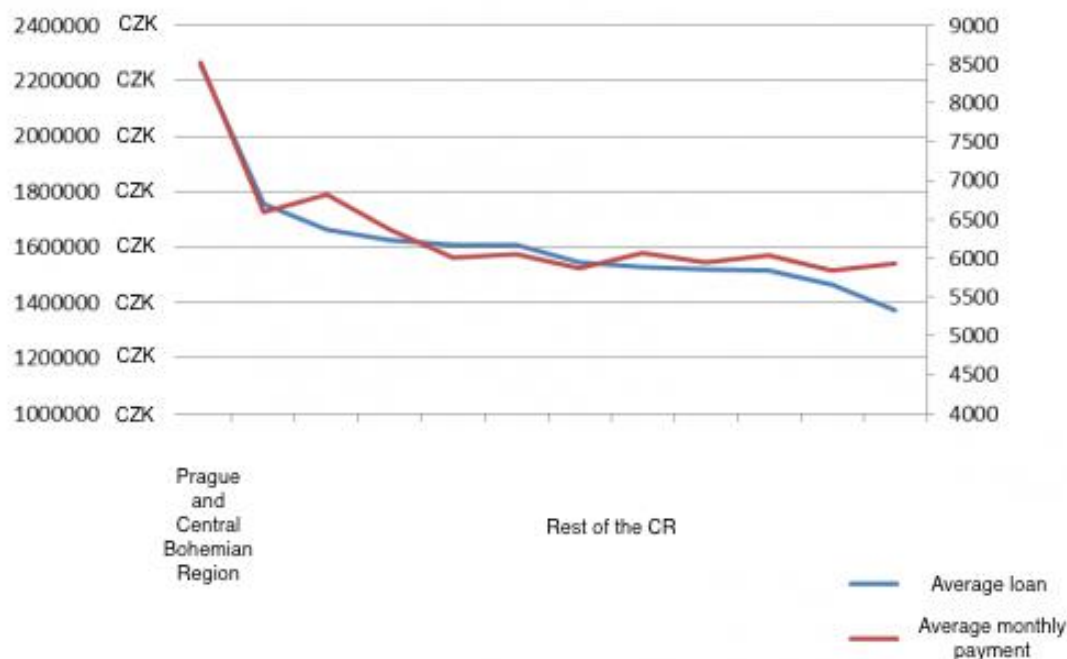
Table 2. Mortgages in Czech Republic in 2017

	Number of issued mortgages	Value of issued mortgages (thousands CZK)
Citizens	105448	216.699.625
Entrepreneurs	2616	75.446.824
Municipalities	58	846.768
Total	108122	292.993.216

Source: MMR, 2017

Since for this thesis Prague is the most important area there are data for the capital city and Central Bohemian Region.

Figure 5. Mortgage loans in Prague (2017)



Source: Hypotecnibanka, 2017

As it shown in the table above, Prague and Central Bohemian Region has the highest rate of mortgage, which is predictable, and the same situation is in Russian Federation. The average amount of issued loans is equal to 2260155 CZK and the average monthly payment is 8525 CZK.

Most people take the mortgage from Česká spořitelna, Hypoteční banka, which has been the leader for 8 years, holds the second place. Mortgage from Česká spořitelna has a lower interest rate, which has encouraged mortgage applicants to apply for the mortgage from this bank. (hypoking.cz, 2017)

4.5. Overview of economic situation in the Russian Federation

Russia is a major energy power holding 13% of the world's oil reserves. 14% of natural uranium, 45% of gas and almost 25% of coal reserves. The energy factor plays a decisive role in ensuring the reliable functioning of the country's economy and social sphere, strengthening its positions in the international arena. (www.minprom.gov.ru)

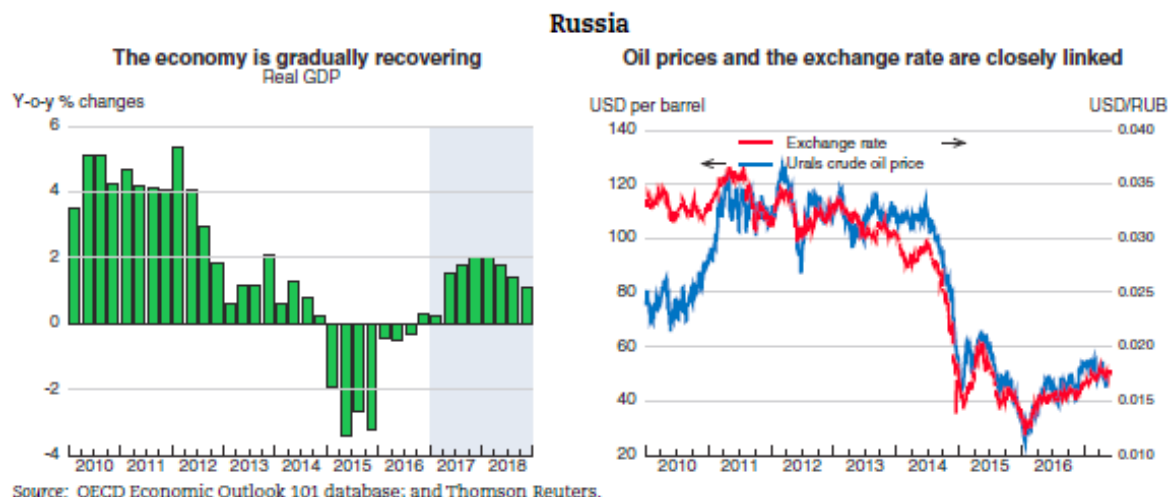
The economy of Russia in 2017 entered the stage of recovery growth after two difficult years. In 2017, the Russian economy emerged from the recession and returned to moderate growth rates due to higher oil prices and the stabilization of key macroeconomic indicators. Such conclusions are contained in the new report of the World Bank (WB).

Analysts believe that the main risks of 2017, which will persist in 2018, are related to the sanctions regime. One of them is the probability of outflow of foreign investors from Russian government bonds. In February 2018, the US Treasury should publish a report on the possible impact of sanctions on the Russian sovereign debt market.

According to the Ministry of Finance, the share of foreign investors is now 33%. Some experts do not exclude that their outflow will negatively affect the rouble and provoke a significant weakening of the Russian national currency.

Head of the analytical department of Grand Capital Sergey Kozlovsky in a conversation with RT added that next year the rouble will continue to be influenced mainly by oil prices, demand for federal loan bonds and the general economic situation in the country.

Figure 6. Economic situation in Russia



Source: OECD Economic Outlook 101 database; and Thomson Reuters

Table above shows some key factors for Russian economic such as GDP and oil prices with exchange rate. From year 2014 oil prices with the exchange rate fell down and consequently GDP of the country decreased. Everyone knows that political actions of the country were the reason of the three years recession. As it is mentioned above and seen on a graph in the year 2016 the situation started to change in a good way.

The increase in oil prices supported the current account in the form of energy exports. Revenues from energy exports more than offset a significant increase in imports, due to the strengthening of the rouble and the restoration of domestic demand. In the first half of 2017, due to the restoration of external demand and higher prices for other commodities, there was also a growth in non-oil exports and exports of services.

In the first half of 2017, unemployment fell slightly, and against a background of low inflation and economic recovery, real wages increased. At the same time, the real disposable income continued to decline, which was due to a reduction in other sources of income.

4.6. Overview of economic situation in the Czech Republic

Since the mid-nineteenth century, the Czech Republic was one of the most industrialized countries in Europe. Leading industries were textile, food, mining, metallurgy, engineering.

Machine building, metalworking, electrical industry, chemical industry, as well as the textile and clothing industry are the most developed industries in the Czech Republic.

The Czech Republic is considered the richest country in Central Europe, the most industrially developed and with the least share of agriculture in its gross domestic product.

Czechia today is a developed state, whose economy is built on the principles of an open free market. Experts predict a bright future for the Czech economy. Their forecasts are based on the state legal system, which attracts foreign investors with solid guarantees for the safety of their investments, on the infrastructure developed in the country and the available skilled labor.

For the Czech economy, the year 2017 was as successful as in 2016, which resulted in a reduction in the unemployment rate (the lowest in Europe), and living standards and salaries increased.

Figure 7. Economic situation in Czech Republic



Source: OECD Economic Outlook 102 database; and Czech National Bank

It should be noticed that in the first months of 2017 there were several important events that will definitely lead to improvements in the economic sphere:

First, - the minimum wage has risen since January 1, 2017, and depending on the qualification of the employee is from 11,000 crowns (407 euros) to 22,000 crowns (814 euros).

Secondly, - according to statistics in February 2017, unemployment reached a natural level of about 4 %. This means that the labour market is in a state of equilibrium: the number of jobs corresponds to the number of job seekers.

Thirdly, - the Czech National Bank (ČNB) in April 2017 completed the foreign exchange intervention, which will contribute to the strengthening of the Czech crown, and, accordingly, to the development of the economy and foreign trade.

Financial analysts firmly believe that the economy of the Czech Republic will grow steadily, which undoubtedly attracts a lot of investments.

4.7. Other economic factors influencing the real estate markets in both countries

4.7.1. Gross Domestic Product

There are two different GDP exist which should be taken into consideration: nominal GDP and real GDP.

The difference between them is that when there is a calculation for nominal GDP there is no inflation rate taken into consideration, but for the real GDP there is.

The formula for GDP is: $GDP = C + G + I + X$, where:

- C (Consumption)
- G (Government spending)
- I (Business investments)
- X (Exports minus Imports)

For this thesis it is reasonably to research a GDP per capita for both countries. The GDP per capita is the gross domestic product divided by the average annual population.

Table 3. GDP in Russia and Czechia

	2013	2014	2015	2016	2017
Russia	16023 USD	14388 USD	9521 USD	8946 USD	10248 USD
Czech Republic	19913 USD	19769 USD	17729 USD	18508 USD	20456 USD

Source: data - countryeconomy, own table

The data was taken from the year 2013 to see the recession of Russian economy after year 2014. The situation changed badly as it is seen in the table – in 2015 – 2016 years GDP in Russia was almost twice less than in 2013. In 2017 GDP has increased and as it was mentioned before economy of the country recovered and returned to growth.

There are minor changes in Czech GDP in 2014, 2015 and 2016 years, but in 2017 the GDP increased to almost twenty and half thousand which confirm that the economy of the country consistently grows. The GDP in 2017 is ten thousand higher than in Russian Federation.

Just to better understand the changing in GDP, here is the table which shows the percentage of the annual growth (or recession) of the GDP for both countries. All of the data are divided by four quarters for each year. That means every first quarter of each year is compared to fourth quarter of the last year.

Table 4. Annual growth rate of GDP (%)

	2013	2014	2015	2016	2017
Russia	0.74	-0.21	-0.29	0.57	0.99
Czech Republic	1.32	1.29	0.52	0.44	0.52

Source: own table

In the table, only last quarters of each year are shown for better comparing. It is important to remember that the comparing is made with the previous period, not with the whole previous year.

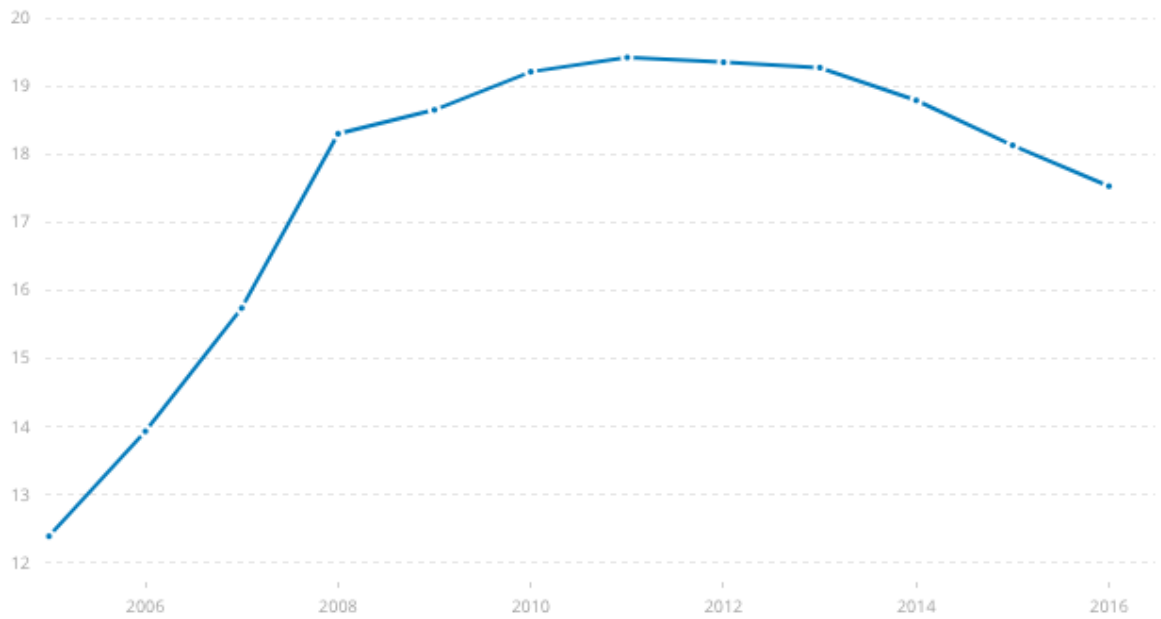
4.7.2. Gross National Income

The gross national income is the cumulative market value of the total volume of final production of goods and services in the economy in one year. The final means goods and services purchased for direct use, and not for resale or further processing. GNI is the best and most affordable indicator of the health of the economy and the quality of life of the population. GDP measures production while GNI measures income. (Lopatnikov, 2003)

GNI per capita is a measure of the country's economic well-being, measuring the average income received by a single person in the country for the year. Calculated from the national income divided by the population. (Lopatnikov, 2003)

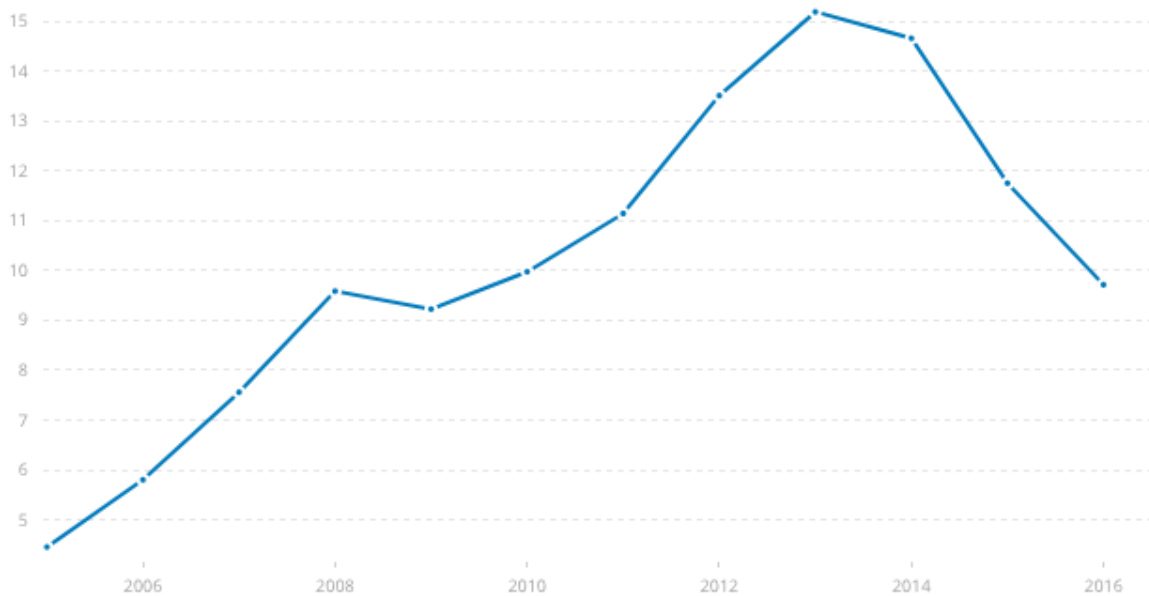
Value of GNI is calculated from GDP. That means the formula for GNI is: $GDP + (\text{income from citizens and businesses earned abroad}) - (\text{income remitted by foreigners living in the country back to their home countries})$.

Figure 8. GNI per capita in Czech Republic



Source: dataworldbank, 2017

Figure 9. GNI per capita in Russian Federation



Source: dataworldbank, 2017

The graphs above show GNI per capita for both countries for last ten years. The data shows that both countries have GNI decreased in the year 2016 and still do not get

back to the level of GNI they both had before. As it is visible on «Figure 8» the best years for Czech Republic were 2010-2012. «Figure 9» shows the best years for Russian Federation and they are 2012-2013.

4.7.3. Inflation rate

In all countries, the inflation rate is indicated by the consumer price index. It characterizes the price changes in the country for a certain period. Inflation rate calculated in percentage.

The data from Official Russian statistic website about the inflation rate in the country are different from the real indicators within the country. The real inflation rate exceeds 4% which are declared by the state say experts and economists.

On the other hand, in April 2017 in Czech Republic, inflation stopped at around 2%. The cost of food and fuel resources is no longer growing so actively that it is important for people. Prices for basic consumer goods and demanded services also did not rise.

Table 5. The inflation rate (%)

	2013	2014	2015	2016	2017
Russia	6,77%	7,8%	15,55%	7,07%	3,69%
Czech Republic	1,42%	0,35%	0,31%	0,68%	2,45%

Source: data - inflation.eu, own table

The percentage of the inflation rate showed in a table above is an average inflation per each year from the Inflation.eu. Again, it is simply to see the recession in the Russian economy, when all economic indicators were negative, thereby the inflation rate in 2015 was very high – 15,55 %. At the same time in the Czech Republic it is less than one percent. Of course, in 2017 the inflation rate in Czech Republic has slightly increased, but still it is lower than Russian.

The inflation rate, if it is high, limits the consumer ability to buy goods and services. It affects every part on the country's economy and the real estate market too. On the one hand, it slows down investment activity and leads to a rise in the cost of loans, on the other - it increases the demand for real estate as a means of storing money.

In a stable economic situation, the growth in property prices depends on the rate of inflation and GDP growth.

The main impact of inflation on the real estate market is manifested through raising interest rates on mortgage loans. The change in the rate of inflation in the consumer market is manifested in the real estate market with a time lag of 1 to 2 years. (avcrealestate.ru, 2017)

Here is the little diagram made from the «Table 6» to easier compare and see the huge difference in the inflation rate of the countries.

Figure 10. Inflation rates



Source: own graph

4.7.4. Unemployment rate

The unemployment rate is one of the most important characteristics describing the economy of a country or region. Almost always it is believed that the higher the unemployment rate, the worse the economic situation and the lower the standard of living of the population. (unemploymentinrussia, 2017)

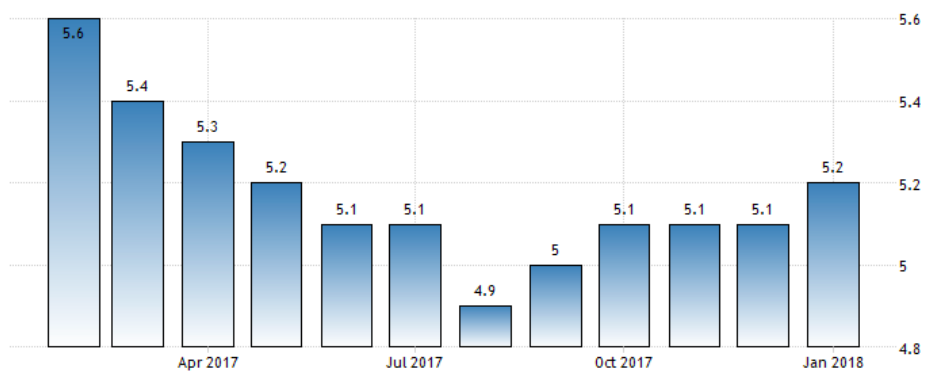
Lloyds Bank conducted a study on the UK real estate market in terms of the labor market. Owners of houses in areas with the lowest unemployment rate saw the highest growth in property prices. On average, the house or apartment is now more expensive at 20% in areas with good employment. On the other hand, in regions where the

unemployment rate is still high, the average growth in property prices was only 3% in six years.

Thus, there is a clear correlation between the unemployment rate and the residential real estate market. The same situation is in the researching countries.

According to official Russian statistic website «Rosstat», unemployment in October 2017 was 5.1% y. The minimum values for unemployment in Russia were recorded in September 2017, when the rate was 4.9%. Now at the beginning of 2018 the unemployment rate in Russia is equal 5,2%.

Figure 11. Unemployment rate in Russia (%)



Source: tradingeconomics, 2018

At the same time in Czech Republic this economic indicator again shows better performance than in Russian Federation. In February 2018, the unemployment rate in the Czech Republic decreased by 0.2% compared to January and amounted to 3.7%.

Out of work, there were 280,900 people; this is the lowest since 1997.

Figure 12. Unemployment rate in Czech Republic (%)



Source: tradingeconomics, 2018

According to analysts, this is not the limit; unemployment will decline further against the backdrop of a growing economy. It is possible that the number of vacancies will exceed the number of unemployed. In this case, the Czech Republic will become the first EU country to be able to boast of this fact.

4.7.5. Average wages

Gross average monthly wages is a full salary without deduction of social security contributions and tax charges. It includes salary, payment of unworked hours, bonuses and bonuses paid by the employer to employees. (Yarmola, 2015)

Table 6. Average wages

	2013	2014	2015	2016	2017
Czech Republic	1 283 USD	1 318 USD	1 367 USD	1 417 USD	1 530 USD
Russia	574 USD	476 USD	557 USD	566 USD	656 USD

Source: data - CZSO; russia.trud; own table

Wages in Czech Republic increased to 31646 CZK/Month in the fourth quarter of 2017 from 29050 CZK/Month in the third quarter of 2017. If you convert the salaries in Russian Federation into dollars, it can be seen that the proportion of consumers with incomes below the average increased by one-third. In general, the average salary in Russia is still much lower than in Western and Eastern Europe. Over the past four years, Russian consumers' incomes have been decreased by 11.

Figure 13. Average wages (USD)



Source: own graph

4.8. Analysis of selected buildings in Moscow and Prague

The most important part of this Diploma Thesis is the analysis of real exciting buildings and apartments in Russian Federation and Czech Republic. Since these countries are in the different currency area all the prices and other cash indexes are given in USD. The most expensive parts in both cities were taken for analysis. The comparison took into account size of chosen apartments, location, price, transportation and other factors.

4.8.1. Selected apartments in Moscow

Table 7. Selected apartments in Moscow

Location	Type	m2	Balcony	Price USD/m2	Price for flat USD
Arbat	3 + 1	77	yes	7715	592887
Hamovniki	2+kk	64	yes	7489	478437
Yakimanka	2+1	67	yes	7115	473580
Zamoskvorechye	2+1	68	no	7011	473403
Tverskoy	2+1	68	no	6794	463489
Presensriy	3+kk	70	yes	6215	434088
Krasnoselskoe	3+kk	70	yes	5674	399399
Meschanskiy	3+kk	69	yes	5642	388603
Ramenki	2+1	67	no	5482	369538
Basmannyi	2+1	68	yes	5313	362420

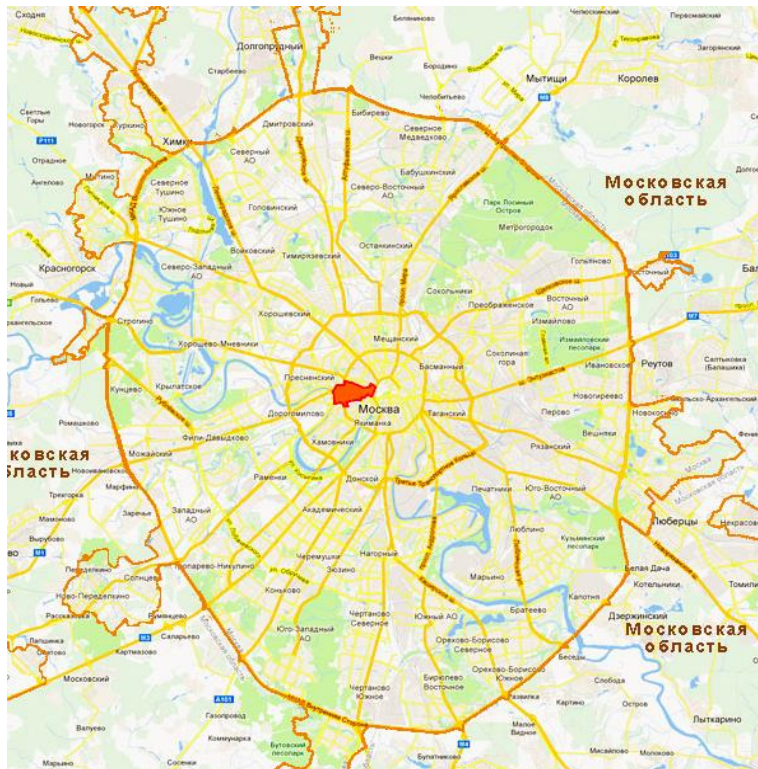
Source: data - mirkvartir, own table

The Arbat district (municipality) is part of the Central Administrative District (CAD). Occupies an area of 2.11 km², it has 26.9 thousand people and 73 streets. The total length of the border of the Arbat district is about 7.81 km. The Arbat District is a historical district of Moscow and has more than 500 years of existence. The area has a lot of historical monuments of history and culture, architecture. The Arbat district got its name after Arbat Street, which in its turn was named after the word "arba" - a cart. At the end of

the XV century, the name Arbat was first recorded, according to the Moscow chronicle. (street-moscow, 2017)

In the Arbat district there are metro stations: Arbatskaya (Filevskaya and Arbatsko-Pokrovskaya lines), Lenin Library, Borovitskaya, Smolenskaya (Filevskaya and Arbatsko-Pokrovskaya lines) and Aleksandrovsky Sad. Also because of the great location in the citycentre the neighbourhood has many trams and buses around. It is not a problem for those who live in this part of town to get home or to work quickly.

Figure 14. Arbat district



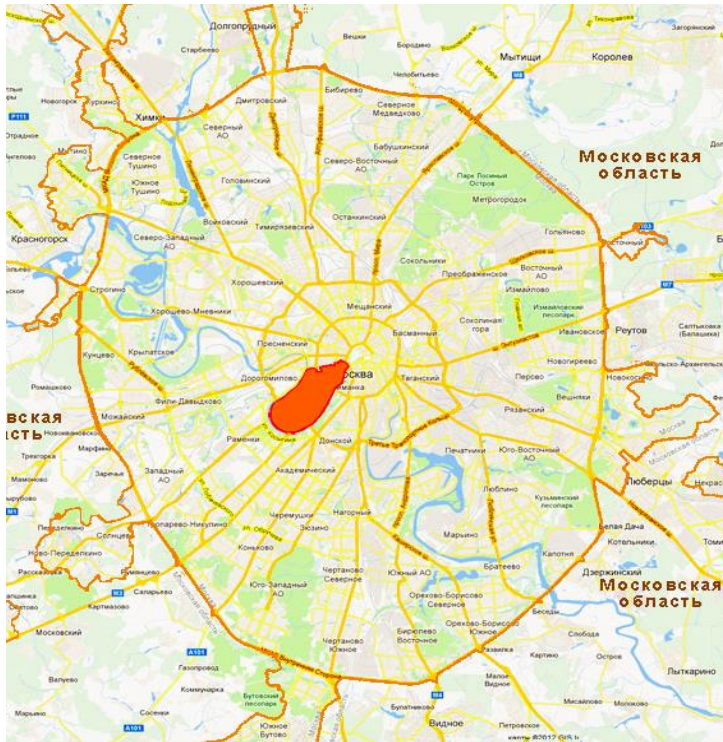
Source: street-moscow

The area of the Hamovniki region is 10.08 km² and contains 138 streets with a population of 99.5 thousand people. It is part of the Central Administrative District (CAD). In the Hamovniki district there are six metro stations: Frunzenskaya, Vorobyovy Gory, Sportivnaya, Kropotkinskaya, Culture Park (ring line) and Park of Culture (Sokolnicheskaya Line), and two metro lines Koltsevaya Line and Sokolnicheskaya Line.

The Hamovniki District is located on the banks of the Moskva River. It harmoniously blended into the coastal natural landscape, completely preserving in its modern appearance the architecture of the past centuries. There are a lot of cultural

monuments in the district: temples, monasteries, museums, historical buildings and structures - which are carefully preserved and reconstructed. Hamovniki is one of the most favourable from the ecological point of view of the capital centre. There are several green areas like Neskuchny Garden or Mandelstam Park. (cao.mos, 2017)

Figure 15. Hamovniki District



Source: street-moscow

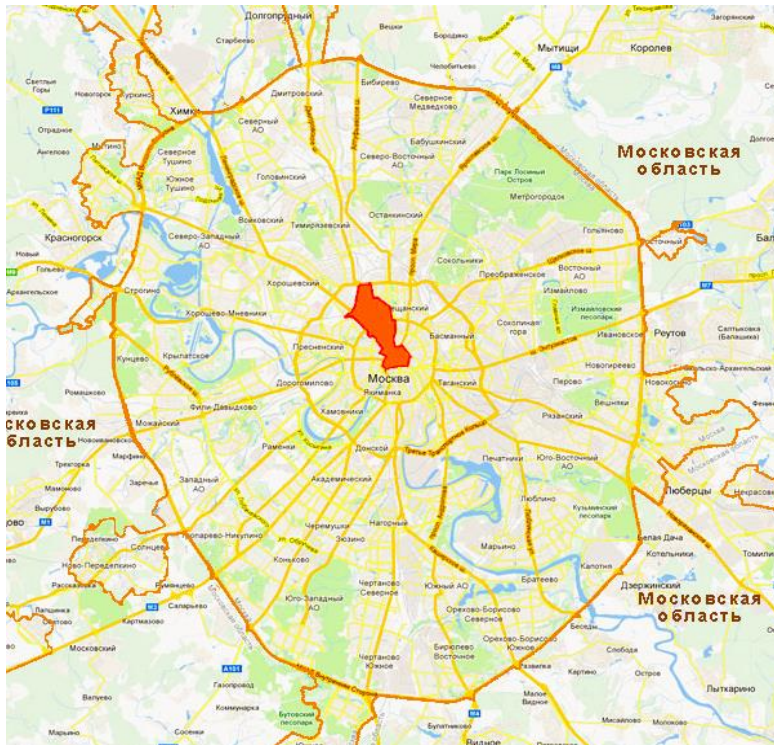
The social infrastructure of the district is very well developed. In terms of the comfort of living, Hamovniki can be considered one of the best areas of the center of Moscow. (cao.mos, 2017)

The Tverskoy District is a part of 10 districts of the Central Administrative District of Moscow. The total length of the border of the Tverskoy district is about 15.86 km, covers an area of 7.27 square km. There are 179 streets and 16 metro stations: Chekhovskaya, Belorusskaya (Zamoskvoretskaya Line), Belorusskaya (Koltsevaya Line), Tsvetnoy Boulevard, Dostoevskaya, Revolution Square, Teatralnaya, Kitai-Gorod (Kaluzhsko-Rizhskaya Line), Kitai-Gorod (Tagansko-Krasnopresnenskaya Line), Mayakovskaya, Novoslobodskaya, Pushkinskaya, Lubyanka, Tverskaya, Mendeleevskaya and Okhotny Ryad, as well as eight metro lines - the Zamoskvoretskaya line, the

Koltsevaya line, the Lubelsko-Dmitrovskaya line, the Kaluga-Rizhskaya line, the Tagansko-Krasnopresnenskaya line, Sokolnicheskaya the Serpukhov-Timiryazevskaya line and the Arbat-Pokrovskaya line. The district got its name from the main Moscow highway - Tverskaya Street. Today it is one of the most promising segments of the metropolitan metropolis. The history of the Moscow centre and its traditions are inseparable from the history of this region.

The level of infrastructure development of Tverskoy region corresponds to the status of the main district of Moscow. The phenomenon of the so-called "daily migration" is particularly pronounced here, when the daily "population" of the district is 7-8 times higher than the permanent one. Near the Tverskaya street you can hardly find quiet alleys - the high concentration of offices affects. Everywhere people who are hurrying to work or study, as well as tourists who came to see the local attractions. Therefore, the infrastructure of the district is designed to meet the needs and desires of not only the residents, but also the guests of the district. Prices for food are much higher here than in other areas of Moscow.

Figure 16. Tverskoy district



Source: street-moscow

Since Moscow is a huge city with area 2511 km² it is impossible to get an average price of apartment all over the city. But it is possible to check the prices in Central Administrative District which is described in the table. The average price for one square metre is 5168 USD and it is the biggest index in the whole Moscow. The index is higher than the middle Moscow level of prices for apartments by 77.8% and it is important to take into account that the prices in this district are decreasing comparing to last year. The current growth rate of the average level of prices for apartments in the Central District is +0,4% per month. But at the same time in the ranking of districts by the rate of change in the average level of prices for apartments the Central District is just on a third position.

4.8.2. Selected apartments in Prague

Table 8. Selected apartments in Prague

Location	Type	m2	Balcony	Price USD/m2	Price for flat USD
Malá Strana	2+kk	51	no	10244	522428
Staré Město	3+1	77	yes	6721	517543
Vinohrady	2+kk	65	yes	5939	386017
Nové Město	2+kk	63	no	5720	360376
Žižkov	2+kk	66	no	4984	328936
Břevnov	2+kk	70	yes	4457	312006
Dejvice	3+1	65	yes	4383	284917
Nusle	3+kk	79	no	3362	265568
Bubeneč	2+kk	68	no	3847	261601
Holešovice	2+kk	68	no	3557	241865

Source: data - srealty, own table

The Czech Republic, and especially its capital Prague, has been and remains one of the most tempting and attractive places to stay. Czech property is in demand among foreign investors.

For the table above the data were taken from one of the real estate website sreality.cz. The site specialized on the buying and renting apartments through real estate agency and directly from the owner of property, thus it shows the real prices on the real estate market now.

Stare Mesto (or Old Town) - the historic district of the city, melting the unique charm of ancient times. It is from here that the modern Prague began its existence. Settled the Old Town by the Vltava River. The centre of the district is the Old Town Square, around which it grew during the last centuries. Each street of the Old City is a gallery of monuments of art, which carefully preserves the memory of medieval times and its heritage, expressed by architectural sights. Over a thousand years of history, the Old City has concentrated a large number of houses and churches on its territory. (praga-praha.ru, 2018)

This part of town of course is the one of the most expensive part of town and to live there it is very prestigiously, but of course because it is a historic district there are always many people around, especially tourists which are visiting Prague each time of the year.

Figure 17. Old town



Source: googlemaps

Mala Strana (Lesser Town or Lesser Quarter) is one of the special districts of Prague. From the Vltava, located on the western bank, on the slopes below Prague Castle, Mala Strana to another part of Prague, which was on the opposite shore, you could get on the Charles Bridge. In the heart of the Lesser Town is Malostranska Square, decorated by the Baroque church of St. Nikolai, the impressive work of Christoph Dinzenhofer. Small Country is an urban whole, in which not only the expert's expert eye, but also the attentive sight of the tourist can notice such a typical and at the same time rare symbiosis of different styles. Small country abounds with purely natural elements: the Vltava's arm, called the Devil's Circle, skirted the Kampa island drowning in the greenery, the vast expanse of Petrshin slope revives the vegetation as well as the well-groomed palace gardens.

Figure 18. Mala strana



Source: googlemaps

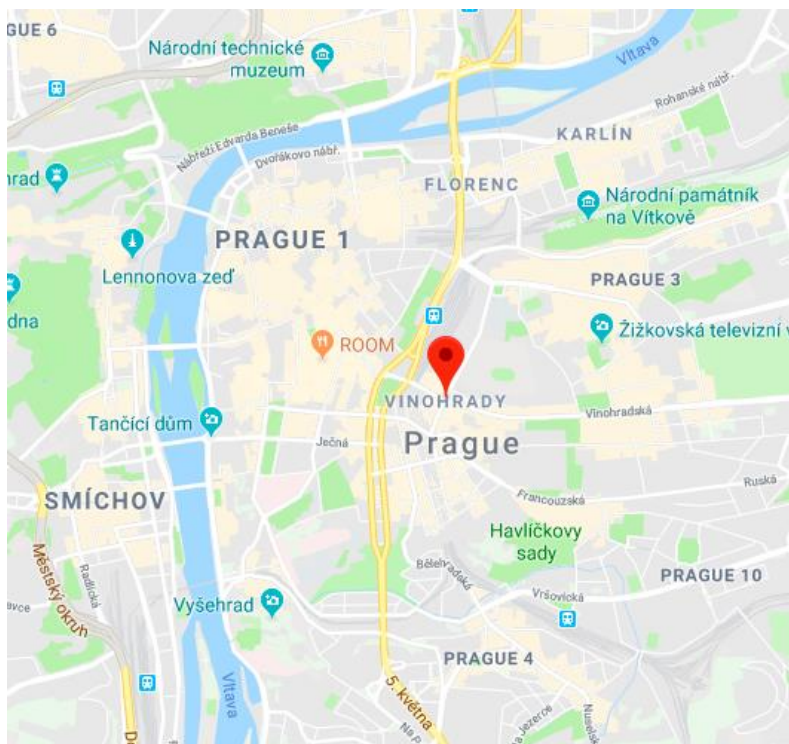
On the territory of the future Lesser Town, there were other settlements and villages that later either disappeared or entered the city structure. In Prague, builders of different professions from all over the Czech Republic gathered. But the number of builders, masons, plasterers and other artisans who came to Prague from the peninsula of the

peninsula and countries whose language was German also increased. Thus, in the Lesser Town a large Italian colony emerged, which gradually established its community with a hospital, a chapel and a cemetery. (praga-praha.ru, 2018)

The description of this part of town is very poetic. Because of a large number of historical objects and architecture, plenty of parks and gardens around, because of the old historical buildings this part of town has the most expensive flats and apartments as it is shown in the table. It is the smallest apartments (only 51 square meter), but it has the biggest price, even that there are also many tourists always and the part of town is noisy.

One of the oldest districts of Prague - Vinohrady is considered to be the best and most prestigious place to live. The very name itself says that, at one time, there were vineyards from which famous Czech wines were made. The district of Vinohrady, at present, is being built up, mainly by country houses.

Figure 19. Vinohrady



Source: googlemaps

This elite area, with the most expensive real estate, nevertheless, enjoys constant popularity among the townspeople. In the area is a large number of parks, the most beautiful and visited of which is the Riegow Gardens.

In Vinohrady a large number of cafes, bars and clubs, where after a walk the inhabitants of the city go to taste Czech cuisine, with the famous Czech beer. Despite the fact that Vinohrady is located in the heart of the Czech capital, here, unlike the largest European cities, there are not a lot of tourists. That's why here it's always quiet and peaceful, and life flows without the bustle of a big city. Squares, parks, numerous cafes and bars, as well as unique buildings in architecture - the main sign of Vinohrady

4.9. Comparison of real estate markets in the Russian Federation and Czech Republic

One of the important part for the comparison is of course the price of rent of the apartments, which is not mentioned in the previous chapters. For this analysis it is reasonable to take several parameters and compare the price for rent in the city centre and outside of it. Plus, the difference between prices of the apartments with one and two bedrooms (1+1 and 2+1).

The tables in previous chapters show that the prices on properties in Moscow are higher than in Czech Republic even taking into consideration that the prices in Czech Republic increased during the last year period and still are increasing. The same situation is with the renting of the apartments. To rent apartments with two bedrooms in Moscow city centre costs around **1700 USD** per month and with one bedroom – **1400 USD**. Average month payments for apartments with two and one bedrooms, which is outside the city centre are **800 USD** and **600 USD**, respectively.

In Prague monthly rent for apartments with two bedrooms in the city centre is **1200 USD** and around **1000 USD** for apartments with one bedroom. Outside of the centre the price is **600 USD** for two bedrooms and **500 USD** for one.

Thus, it is not a big difference between the prices of rent of apartments with one or two bedrooms, but it is more notable that in both countries there is a difference renting apartments in the city centre or outside.

In the tables with selected apartments in Moscow and Prague, it is very well note the correlation between the size and type of the apartments. All the apartments with three rooms (3+kk or 3+1) have around 70 square meters.

In the chapter with the analysis about Prague there is no mention about transportation such it is in Moscow chapter. The thing is that the transportation system in Prague works very well and often it is not a problem if buy or rent apartment at any part of

the city. On the other hand, it could be a problem if apartments are outside of Prague, but in the most cases those people living in the house outside of Prague and have a car.

If speak about the types of ownership in the Czech Republic just 36% of all properties are in the private ownership, people prefer rent apartment, have a co-ownership, housing cooperatives. In Russia more than half of people have their personal flat – 65,5 %.

For better orientation in real estate markets and see the real difference between some of them, there are table of counted ratios for both cities:

Table 9. Indexes important for comparison

Index	Prague	Moscow
Price to Income Ratio:	16.73	19.93
Mortgage as Percentage of Income:	101.90%	256.22%
Loan Affordability Index:	0.98	0.39
Price to Rent Ratio - City Centre:	31.22	23.75
Price to Rent Ratio - Outside of Centre:	27.40	20.43
Gross Rental Yield (City Centre):	3.20%	4.21%
Gross Rental Yield (Outside of Centre):	3.65%	4.89%

Source: data – numbeo, own table

The price to income ratio and price to rent ratio are to the most important ratios and show the most important characteristics.

The price to income ratio measures the relations between the price of the property and the average household income in a particular area

The concept is to evaluate the affordability of housing in the area. When banks and financial institutions provide mortgage loans, they consider this ratio to know how affordable to the lender the credit is. Price to income ratio is to measure the long-term availability of houses in the region.

Price to income ratio is also a good indicator for estimating the current availability of houses in the region compared to how historically it was. If the ratio increases, it means that housing becomes less affordable. If the ratio decreases, it means that housing becomes more affordable.

$$\text{Price to Income Ratio} = \frac{\text{Price per share}}{\text{Earnings per share}}$$

According to data which are provided in the table the price to income ratio is higher in Moscow and that means that in Moscow property is less affordable than in Prague. But it is important to say that at the beginning of 2016 in Moscow the price to income ratio was equal 23,44 and at the beginning of 2017 – 20,81, when at the same time in Prague in 2016 the ratio was equal 12,78 and already 14,25 in 2017. It is easy to understand that now in Prague the property is becoming less affordable than just two years before. And it is an absolutely the other way around in Moscow.

Price to rent ratio tells whether renting or buying is better deal. It is usually calculated as the ratio of the price of housing to the annual rent at a certain place. At the most basic level, the price to rent ratio is a guide for understanding whether it is better to rent or buy a property. A lower price to rent ratio indicates that the location is more favourable for buyers, while a higher ratio indicates a better environment for those, who want to rent an apartment.

$$\text{Price to Rent ratio} = \frac{\text{Average list price}}{(\text{Average rent} * 12)}$$

Since these ratios in Prague is higher than in Moscow (in the city centre and outside of it), that means that in Moscow it is more reasonable to buy property.

Gross rental yield is the annual income from property as a percentage of the value of the property or the purchase price before taxes and expenses. Gross profitability is expressed in percentage. It is calculated as the annual return on investment before taxes and expenses, divided by the current price of the investment.

$$\text{Gross Rental Yield} = \frac{\text{Annual rental income (weekly rental income} * 52)}{(\text{Property value} * 100)}$$

Formula for calculation the Loan Affordability Index is:

$$LAI = \frac{(Median\ Family\ Income)}{(Qualifying\ Income)} * 100$$

After some characteristics above it is now possible to do a comparison picture in couple of sentences. Something what is the distinctive feature is that the part of city where to rent or to buy apartments is very important. Thus, for example in the «Table 8» with selected areas in Prague the most expensive one was the smallest flat (50 square meters). In the description of the neighbourhood there is an explanation why it is like this.

According to all collected data and after the research it is clear that in Russia, especially Moscow, flats and apartments are still more expensive than in Prague. But apparently after further research and evaluating of ratios the inference is that now apartments and real estate market respectively, are getting more affordable for people in Moscow. The forecast is that the in the next two or three years the prices for properties in Moscow and Prague will be equal to each other.

5. Conclusion

The modern real estate market is complex and not always predictable. Success is possible only if competent and qualified marketing work is carried out. For the successful formation of a civilized market for housing and real estate, it is necessary to do a great job.

The main driving processes – globalization, urbanization, high technology, population growth - affect the global real estate market. The opinion of experts PwC, the market is coming significant changes related to the state of the environment, demographic trends and technology. Increasing the diversity of investment objects; the rapid pace of urbanization and the associated intensification of urban construction; building safe for the environment and comfortable homes for housing; close cooperation of the investor with the state for developing a joint development course and reducing the risk of investment; the emergence of additional risks for the investor, which are related to climatic and behavioural changes, political instability.

To stay afloat, the investor will be forced to invest in several smaller objects simultaneously, to search for free niches, to enter the second and third-level markets. Alternative investment options may be health facilities (due to the aging population trend), cellular communication stations, outdoor advertising boards, vertical farms, which is especially important with the increase in population and the reduction of the number of arable land.

The main aim of this diploma thesis was to identify which real estate market is more successful, after researching of many factors influencing the real estate market. It is clear that the crisis because of the sanctions and decreasing of Russian rouble and oil prices had a big influence on each part of country's economy, and, of course, on real estate market. Comparing to Czech Republic the Russian economy loses in all respects – checking GDP, inflation rate, unemployment rate and average wages. And still Russian real estate market is less affordable for citizens.

Prices for the property in both cities are very depend on its location. That is almost a single similarity between the real estate market in these cities.

Currently almost all ratios in Moscow are higher except of rent to ratio – that means that to buy property is reasonable in Moscow, while in Prague the situation is better for renters. But it is important to note again, that ratios, characteristics and indicators, such as for example price for square meter, monthly rent etc., are rapidly increasing in the

Czech Republic during the last couple of years. Some of experts are saying that prices on properties in Czech Republic are not going to stop rising as well as conditions of mortgage loans are not going to change in a better way. After this it may turn out that soon that to buy property in such a huge city will be easier and more affordable than in Prague.

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7. Appendices

For better orientation in foreign currency, there is an official exchange rates from Russian and Czech Central banks:

US Dollar \$ = 57,0188 ₺

US Dollar \$ = 20.666 CZK