

Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Economics



Bachelor Thesis

Analysis of real estate market in Czech Republic

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BACHELOR THESIS ASSIGNMENT

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Economics and Management

Thesis title

Analysis of real estate market in Czech Republic

Objectives of thesis

The aim of this thesis is to assess the real estate market situation in Czech Republic with focus on Prague as the capital city. The goal of the research in practical part is to describe the price situation on real estate market in recent years, compare the price with other European countries, show the affordability of housing in Czech Republic and Prague, possible income from investments in real estate and then evaluate the indicators that are affecting the price of real estates, such as interest rates of mortgage loans, number of new constructions, etc.

Methodology

The theoretical part is based on the inductive method of academic research. The information were implemented through elaboration from specialized books, scientific articles and Internet sources engaged with the topic of the thesis, as well as various legal acts regulating economic relations were generalized and systematized.

In the practical part, the following methods will be applied:

- 1) Return on investment
- 2) Time series analyses
- 3) Pay-back period

The proposed extent of the thesis

40-50

Keywords

real estate, price, analysis, mortgage, apartments, development, investment, rent

Recommended information sources

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Declaration

I declare that I have worked on my bachelor thesis titled " Analysis of real estate market in Czech Republic" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break copyrights of any their person.

In Prague on 13.3.2019

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Analysis of real estate market in the Czech Republic

Abstract

This bachelor thesis describes actual situation of real estate market in the Czech Republic with the focus on capital city of Prague. Thesis is divided in two main parts, theoretical and practical.

The first part is theoretical which explains principles of real estate knowledge from basic, economic and legal view, and focuses on the general market characteristics and the methods of valuation.

The second part is practical, which shows the price development of real estate market in the Czech Republic and its regions and compares the prices of real estates in Prague with nation average, with other European cities and then evaluates affordability of housing in the Czech Republic, describes situation on the mortgage market and shows investment possibilities in the real estate market.

Keywords: real estate, price, analysis, mortgage, apartments, development, investment, rent

Analýza trhu s nemovitostmi v České republice

Abstrakt

Tato bakalářská práce popisuje aktuální situaci na trhu s nemovitostmi v České republice, se zaměřením na hlavní město Prahu. Práce je rozdělena do dvou hlavních částí, teoretické a praktické části.

První část je teoretická, která vysvětluje základní pojmy z oblasti nemovitostí ze základního, ekonomického a právního hlediska a zaměřuje se na obecné tržní charakteristiky a metody oceňování.

Druhá část je praktická, která ukazuje vývoj cen realitního trhu v České republice a jejích regionech a porovnává ceny nemovitostí v Praze s celostátním průměrem a s dalšími evropskými městy a poté hodnotí dostupnost bydlení v České republice. Tato část také popisuje situaci na hypotečním trhu a ukazuje možnosti investic na trhu s nemovitostmi.

Klíčová slova: nemovitosti, cena, analýza, hypotéka, byty, vývoj, investice, pronájem

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1 Introduction

The real estate market is one of the most important sectors of any economy. The Czech Republic is no exception, in which the real estate market is still developing. After 1989, a transition to a market economy and a change in political regime in the Czech Republic led to economic growth and, consequently, to an improvement in the standard of living. As a result, there was a return to the development of business and the real estate market, investment, and private property. The world crisis of 2008 caused a recession after several years of development and growth. Demand for real estate fell that caused a fall in property prices. From 2009 to 2013 there was a stagnation in the Czech real estate market, developers stopped the construction of new buildings. Property demand has reached its historic minimum. The situation began to change in 2014, when banks set lower mortgage rates and there were very favourable conditions for the purchase of real estate. Thereby, the demand for real estate had risen sharply, but there was not enough supply on the real estate market, so real estate prices climbed up the hill. In my bachelor thesis, I will analyse the real estate market, as well as investing in real estate. It is a very interesting and relevant topic in our time, because real estate, as a large form of investment, brings a good income with a small degree of risk.

2 Objectives and Methodology

2.1 Objectives

The aim of this thesis is to assess the real estate market situation in Czech Republic with focus on Prague as the capital city. The goal of the research in practical part is to describe the price situation on real estate market in recent years, compare the price with other European countries, show the affordability of housing in Czech Republic and Prague, possible income from investments in real estate and then evaluate the indicators that are affecting the price of real estates, such as interest rates of mortgage loans, number of new constructions, etc.

In this bachelor thesis I will answer the following questions:

- How has changed prices for residential property in Czech Republic and especially in Prague?
- How has changed the mortgage market?
- What is more suitable form of rental: short-term or long-term?

2.2 Methodology

The theoretical part is based on the inductive method of academic research. The information was implemented through elaboration from specialized books, scientific articles and Internet sources engaged with the topic of the thesis, as well as various legal acts regulating economic relations were generalized and systematized.

In the practical part, the following methods were applied:

- Data collection, analysis and interpretation of the data found on CZSO, Deloitte, Statista, Eurostat, Hypoindex during the period from 2009 to 2018
- Economic-mathematical and economic-statistical methods which allowed to determine the development trends of the market, evaluate its dynamics, predict its further development.
- Financial ratios such as Return on Investment (ROI), Payback Period for investment evaluation

To analyse the data and calculate financial ratios, I applied the following formulas:

- Annual growth rate = $(a_2/a_1 + a_3/2)/2$
- ROI = Total profit per year/Total investment
- Payback period = Initial investment/annual payback

3 Literature Review

3.1 Characteristics of the real estate market

"Market", in general terms, is defined as a system regulated by the ratio of supply and demand. In a narrower sense, the concept of "market" is used by specialists as a place of sale and purchase of goods and services. The real estate market is a sector of the national market economy, which is a set of real estate objects, economic entities operating on the market, market functioning processes and mechanisms that ensure the functioning of the market (market infrastructure). The real estate market is an essential component in any national economy. Without it, there can be no market at all, since the labour market, the capital market, the market of goods and services, etc., for their existence, must have or rent the appropriate premises necessary for their activities. (Shulidi, Malugin, Denisenko, 2006)

The real estate market in the national economy performs the following functions (Shulidi, Malugin, Denisenko, 2006):

- regulatory - ensures the redistribution of investment flows between competing types of real estate and / or between competing land uses;
- price establishment - on the market a mobile connection is formed between value and price, responsive to changes in production, needs, market conditions;
- sanitizing - the purification of the economy from uncompetitive, unstable and weak market participants;
- intermediary - the market allows economically isolated market participants to find each other and exchange the results of their activities to determine how mutually beneficial this economic connection is;
- stimulating - economic encouragement of the productive use of scientific and technological achievements in the creation and use of real estate;
- information - through prices, the market provides an objective information about the necessary quantity, variety and quality of goods and services of real estate that are delivered to the market;

- social - solves social problems associated with the creation and use of utility properties of real estate.

3.1.1 Features of real estate market

The real estate market has several features (Shulidi, Malugin, Denisenko, 2006):

- the locality of markets. Since real estate as a commodity is unique and immobile, the product cannot be delivered to buyers and consumers. Therefore, the real estate market is characterized by a relatively small number of market participants and the number of transactions carried out on it;
- demand on the market is determined not only by the consumer qualities of the objects themselves, but mainly by their location. Therefore, the real estate market is characterized by great variability in demand by countries, regions, etc .;
- low elasticity in the supply of real estate. This is because real estate is tied to a specific location, construction takes time, and buildings and structures are relatively durable;
- open information about the state of the market is incomplete and not always reliable, as real estate transactions are often exclusive and confidential;
- a relatively high degree of state regulation of the market and the possibility of encumbrance of real estate rights of third parties;
- low liquidity of real estate;
- protection against inflation.

3.1.2 Classification of real estate objects

Real estate objects are classified using the facet method as follows (Mironova, Shutkov; Ekonomika nedvizhimosti, 2004):

1) By property type:

- **land** – part of the land surface that has a fixed grid. Plot location, the right status and other property details are reflected in the real estate cadaster. Land includes agricultural land (arable land, hayfields, pastures, perennial plantations, virgin land), lands of

settlements (cities, workers, resorts and holiday villages, rural settlements), as well as industrial, transport, communications and other sectors national economy, environmental protection land, nature reserve, recreational, recreational and historical-cultural destination, forest fund land, forestry, land of water fund, reserve land;

- **commercial real estate** – buildings and construction used for commercial activity with subsequent extraction of permanent profits or capital gains, rental income, investment income. Commercial real estate includes offices, bars, restaurants, hotels, sports and recreation complexes, etc.;

- **industrial real estate** – any property that relates to industrial production and storage as warehouses.

- **residential property** – property used for living such as flats, apartments, houses, ect.

2) By functional purposes:

- **productive real estate** (directly or indirectly involved in the creation goods);

- **non-productive real estate** (provide conditions for servicing and living of the population).

3) By origin:

- **reproducible real estate objects** (buildings, structures, perennial plantations);

- **non-reproducible real estate** (land, natural deposits, natural water basins).

4) By degree of readiness for operation:

- real estate objects put into operation;

- real estate objects in unfinished construction.

5) By ownership:

- real estate objects in private ownership;

- real estate objects in co-operative ownership;

- real estate objects in municipal ownership;

3.1.3 Subjects of real estate market

The subjects of the real estate market should be understood by all market participants, which allow it to function smoothly and develop. All subjects of the real estate market can be divided into several main subgroups:

- sellers;
- buyers;
- participants implementing their activities on a professional basis;
- institutional participants, i.e. acting in the interests and on behalf of the state.

As a seller or lessor can be the state or any individual or legal entity that owns the property. The buyer (lessee) is also entitled to any individual or entity that owns the real estate object.

The processes that take place on the real estate market determine the composition of persons who implement their activities on a professional basis, which usually implies the payment of their services. They can also be individuals and entities. The nature of the activities of such persons dictates the need for state registration, and in some cases, obtaining a license.

The main professional market participants are realtors, banks, appraisers, developers, design and construction companies, lawyers, insurance companies, analysts, specialists in the field of training and professional development of personnel, participants in the stock market.

Institutional participants in the real estate market regulate the process of registration and registration of property rights for real estate and individual real estate objects, exercise control over their use, and invest in important areas for the public. Institutional market participants include state notaries, technical and fire inspectorates, organizations that regulate land use, urban development and land management. (Asaul, 2009)

3.1.4 Residential real estate market

In my thesis I will deal mainly with the residential real estate market. This market makes up the largest part of the entire real estate market. This segment includes real estate for living.

There are two components of the residential real estate market: primary and secondary real estate market. In the primary market the real estate as goods acts for the first time. The main sellers of real estate in this case are the state represented by its federal, regional and local authorities, as well as construction companies. In the secondary market, real estate acts as the goods, previously used and now owned by a particular owner who is a natural or legal entity. (Asaul, 2009)

There are seven major types of residential real estate (Dave Ravindra, 2012):

- Condominiums
- Single-Family Houses
- Properties for Renovation
- Recreational Properties
- Multi-Unit Dwellings
- Apartment Buildings
- Raw Land

3.1.5 Forms of ownership

There are three types of ownership of real estate objects that occur in the Czech Republic: private ownership, cooperative ownership and municipal ownership.

Private ownership

The basic essence of this definition is that the flat is the property of the owner who can do everything he want with it if the law does not prohibit him. He is registered as the owner of the flat in the Cadastre of real estate. In this form of ownership, the owner is obliged to pay a property tax once per year. The owner can reconstruct, reassign, lease or pledge the property without the consent of a third party. The apartment can be a subject of inheritance. Private ownership, however, also carries out its duties, since with the ownership of the apartment you are also becoming the owner of the common areas of the house that include some expenses, administration and maintenance of the house. If the owner of the flat decides to sell the property, he can so do without the consent of anyone else. With the buyer, he writes the purchase agreement and submits an application for the deposit of property rights in the Land Registry. The owner signs a purchase agreement with the buyer and submits an application of property rights in the Cadastre of real estate.

Cooperative ownership

The owner of the cooperative apartment is a cooperative, i.e. a legal entity. Here you don't buy a property, but only a member's rights, so you become a member of the cooperative. You are not the owner of the flat but the tenant and for the use of the apartment you are paying a rent to the cooperative. The amount of the rent is determined on the member's meeting. This, however, does not prevent the handling of the apartment, such as selling. In case the co-owner wants to rent it, he must have permission from the cooperative. The cooperative apartment cannot be guaranteed in the case of mortgages and loans. A cooperative apartment can be a part of the inheritance. Expenses related to the maintenance of the flat are paid by the co-worker himself. For the reconstruction of the apartment you must have the permission from the cooperative. The apartment owned by a cooperative cannot be sold by the co-owner.

Municipal ownership

The municipal apartment is an apartment that is owned by a municipality, a city or a city district. The municipality is the owner of the apartment, it is entitled to dispose of, rent, etc. Here is the classic relationship between the lessor and the tenant as with other apartments. The big advantage is a regulated rent. The initial deposit can sometimes be a hundred thousand, but it is still cheaper than buying an apartment into private ownership. Applicants for a municipal dwelling must be written to the waiting list, where the ranking is determined based on his / her standard of living. Weaker social layers are more favourable here. Another way to get a municipal apartment is a heritage.

3.2 Investment

“Investment, in its broadest sense, means the sacrifice of current dollars for future dollars.” (W.F.Sharpe, G.J.Alexander,J.V.Bailey, Investments, 1995)

3.2.1 Investment definition/classification

Investments are the free cash of households that are used in favour of future income. It only depends on finding a good investment and earning on it. Investments can be divided

into real, financial, and others that belong to a wider group. Real estate, precious metals, commodities, or artistic objects are real. Financial investments include lending, money deposits, and securities and other investments include education or investment in time that is marginal, but these factors are very important and often overlooked. The human psyche is one of the most important parts of the investment process. (Kiyosaki, Lechter, 2000)

3.2.2 Types of investment in real estate

Investments in real estate represent financial investments in a building under construction or in completed building or in a part of it, with the aim of the future profit-making by an investor. Income from such investments are of two types (Dave Ravindra, 2012):

- passive income, which is formed by renting the purchased property;
- income from resale of the purchased investment asset at a higher price.

In accordance with these different types of returns allocate capital and speculative investment in real estate, respectively. Investments in real estate are today one of the most popular types of financial investments from private investors. This happens for several reasons. First, they require relatively little capital. Secondly, such investments in real estate have a clear scheme for further profit. To do this, it is enough for the investor to rent the acquired apartment or house. There are two types of renting a property: short-term and long-term. By short-term rent we understand renting a property for short period of time (usually up to one month) and price is set per one day. This type of rent is more common for travelers, people on a work trip or vacation. Long-term rent means renting of a property for long period of time (more than 6 months). In that case you sign a contract with the owner of the property and pay rental monthly. (Dave Ravindra, 2012)

In the case when a person wants to invest money in an apartment or house under construction, he often pursues speculative goals. After all, the value of the property under construction and the one constructed varies greatly. The earlier an investor has invested money in such an apartment (for example, at the stage of a pit), the more profit he will receive by selling a completed and commissioned residential investment asset. At the same

time, it is necessary to understand that the risks of such an investment will also be maximal.

3.2.3 Pros and cons of real estate investments

As with any type of investment, there are various pros and cons of investing money in real estate and they should be evaluated by every potential investor. Otherwise, investments may not meet the expectations that will be placed on them. So, let's start with the benefits.

- **Reliability**

Investment in real estate has been and remains one of the most reliable tools for investors. This is primarily due to the dynamics of prices for apartments, offices and so on. As a rule, they are constantly growing. Less often, the cost of these objects may stagnate for some time or not change. Prices for such assets fall extremely rarely. Moreover, after a while they regain such a tendency by rapid growth.

- **Tangibility/Reality**

Real estate is a real investment. This circumstance distinguishes it from bonds, cryptocurrencies and other investment assets.

- **Usefulness**

The investor is always able to independently use the apartment or office. His family can move into the apartment. In the office space, you can place the office of your own company.

- **Durability**

Once invested in real estate, an investor can lease it for many years. In other words, we are talking not only about profitable, but also about long-term investments.

- **Helpfulness**

Such investment asset can be used as a bank pledge when its owner needs to arrange a loan.

- **Risk free**

In the case of real estate, the risks associated with the complete loss of invested funds are minimal.

And now we can look on the disadvantages of the real estate investment.

- **Profitability**

Renting a purchased property is not always the best solution. Often the interest that a potential investor can receive from a bank deposit will be higher than the possible rent. However, in order to make a final judgment, each situation should be considered separately.

- **Liquidity**

Liquidity of investments leaves much to be desired. In other words, when an apartment owner urgently needs money, it will be quite difficult for him to quickly gain his market value for a given investment asset. As a rule, on such a quick sale an investor can lose a lot of money.

- **Expenses**

Investment property is always related with additional costs. They can be either one-time such as realtor services, or permanent such as utility payments.

- **High threshold**

Investment in real estate always implies the possession of large sum of money. So that a wide range of investors cannot afford these investments.

- **Non-permanent income**

Passive income from renting a property is non-permanent phenomenon. Regardless of the desires of the investor, from time to time he will have to spend his own time and money to find a new tenant or use services of real estate agency that brings new expenses.

3.3 Economic characteristics of the real estate market

3.3.1 Factors affecting real estate market

Demography

The real estate market analysis is based on an understanding of demographic processes and it is one of the factors that allows realtors to predict trends on this market. These data describing the overall composition of the population in terms of gender, age, population growth, income, and race. Shifts in demographics greatly affect the real estate market. It is also one of the factors that determines demanded type of property and its market value.

Politic

Determined by the political processes taking place in the country, as well as the legislative framework that stimulates or suppresses consumer activity. There could be a certain frequency, for example, related to elections, or it may depend on the course of the ruling party, as well as the degree of government presence in this segment of the economy. An important thing are the state programs related to mortgage lending. Another factor affecting the real estate market is public unrest and the struggle for independence. However, not always social upheavals provoke a decrease in the cost of housing. Sometimes sellers and buyers simply freeze for a while, watching further developments and, at the same time, reducing the number of transactions.

Economic

Among the economic factors affecting the real estate market belongs income and employment of the population, solvency, development of social infrastructure in settlements, interest and rent rates, etc. From an economic point of view, the main impact on real estate prices has a ratio of supply and demand. Moreover, the internal trends of the economy can affect the balance of supply and demand in different directions. For example, if a serious economic crisis inevitably causes a downturn in the market and a decline in real estate prices, the “ordinary” economic instability and the threat of crisis situations in the future, on the contrary, increases demand and people start to invest money into real estate. The same applies to inflation: on the one hand, it inhibits investment activity and leads to an increase in the cost of loans, on the other - increases the demand for real estate as a tool for storing money.

Interest rates

The real estate market is also influenced by interest rates. Higher interest rates increase the cost of paying off mortgage loans, and as a result only a few people will be willing to buy real estate properties. In fact, most people prefer to borrow money for purchase. So that the global economy, banks and governments can influence the real estate market by manipulating interest rates. Interest rates also affect equity investments. For example, when interest rates are increasing in the real estate market, the return on real estate investment becomes less attractive. It reduces their value. On the other hand, in

situations where there is a decrease in interest rates, a high return on the real estate investments becomes more attractive. It increases their value. It is important that all realtors monitor all factors in the local and global markets that may affect interest rates.

Scientific and technical

Determine the quality of materials and the level of technology of construction work. According for that they can accelerate the process of building new residential areas, simplify repair work, which has a positive effect on the cost of objects and the speed of their commissioning.

Natural geographic

This factor includes climate, relief, availability of natural resources, mineral waters, sea coast, etc. All this affects the real estate market no less than the opportunity to take a loan for real estate or high social guarantees.

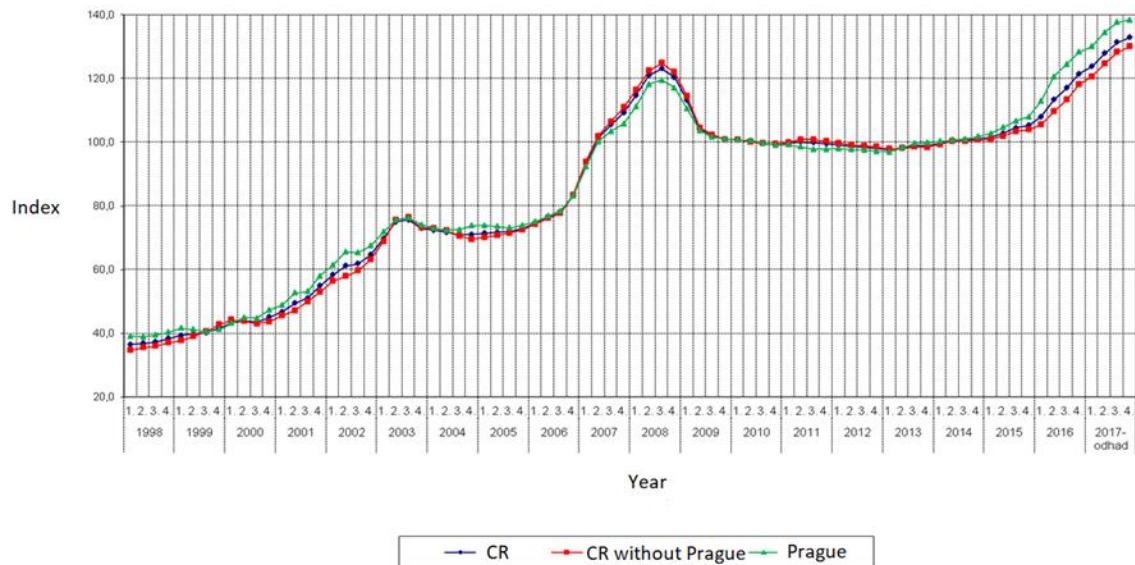
3.3.2 House price index

The House Price Index (HPI) is a synthetic price index that measures development price levels of residential real estate in the Czech Republic in accordance with a harmonized EU standard. Its advantage is therefore great international comparability. (CZSO, 2019)

Main methodological aspects of HPI (CZSO, 2019):

- measures the development of flat and family house prices, including related plots
- total purchases of households, purchases of other sectors are excluded
- includes both new and old residential real estate
- prices for index calculation are based on actual prices
- the index represents the movement of the price level throughout the territory of the Czech Republic
- the index is chained annually, i.e. the internal weight structure is updated
- weights reflect the relative proportions of actual market transactions, non-market prices are excluded
- the current base of the index is 2010 = 100

Figure 1 House price index in Czech Republic from 1998 to 2017 (2010 = 100)



Source: CZSO, 2016

3.3.3 Appraisal of real estate

“Appraisal is a general term used to identify the appraisal industry. More specifically, an appraisal is an unbiased estimate or opinion of a specific property’s value on a given date.” (Roy K.Bottger, Dwight E. Norris, Eric Shaarkey, 2007)

The appraisal process of real estate includes a system of successive actions by the appraiser - from setting the assignment for appraisal to the transfer to the customer of a written report on the assessment of the containing property, expressed in monetary units. It includes the following steps (Roy K.Bottger, Dwight E. Norris, Eric Shaarkey, 2007):

1. Define the problem
2. Determine the scope of work
3. Collect, verify and analyse all relevant information
4. Reconcile the information analysed
5. Report the assignment results

There are various methods and techniques that can be used in the appraisal. There are three main methods of real estate valuation (Roy K.Bottger, Dwight E. Norris, Eric Shaarkey, 2007):

- Sales comparison
- Cost approach
- Income approach

Sales comparison

The comparative method involves a comparative analysis of market sales, i.e. comparison of market analogs. This method is based on the principle of substitution, the main idea of which is that the informed buyer does not pay for real estate more than the cost of a similar property on the market. The value of the subject property is determined based on the price of actual real sales. This method is used as the primary method in estimating housing for underwriting mortgage housing loans. Main steps of this approach are market research and collection of information on completed transactions, selection of information in order to increase its reliability, confirmation that the transactions were made in free market conditions; selection of comparable objects for analysis, carrying out a comparative analysis. (Roy K.Bottger, Dwight E. Norris, Eric Shaarkey, 2007)

Cost approach

Cost approach is a set of methods for assessing the value of the property, based on the determination of the costs necessary to restore or replace the property, considering its depreciation. The cost approach is based on the principle of replacement, that means a reasonable buyer will not pay for the property more than the cost of building an object that is similar in its usefulness to the estimated object. The application of the cost approach to real estate appraisal consists of the following steps: assessment of the market value of the land; assessment of the replacement cost of the estimated building, including an assessment of the amount of entrepreneurial profits; calculation of the identified types of depreciation; calculation of the final value of the property. (Roy K.Bottger, Dwight E. Norris, Eric Shaarkey, 2007)

Income approach

The income approach in assessing the value of property allows to determine its value at the time of the assessment as a source of future income. This approach reflects the potential profit from the operation of an immovable property from the date of valuation to

the end of the operation process and shows the risks inherent in the property and the region in which the property is located. There is two different methods in income approach: profit capitalization and cash flow discounting. These methods for appraisal the value of real estate based on the conversion of profits from real estate in its current price. The difference between these methods of income approach is in the method of converting profit flows. (Roy K.Bottger, Dwight E. Norris, Eric Shaarkey, 2007)

3.4 Cadastre of real estate

“Cadastre of Real Estate (KN) is one of the largest information systems of the state administration as for the data amount. It is the set of data about real estates in the Czech Republic, including their inventory and description and their geometric specification and position. Parts of it are records of property and other material rights and other legally stipulated rights to these real estates. Cadastre of real estate contents many important data about parcels and selected buildings and their owners. In 1998 the digitization of its File of descriptive information was completed and at present the work on the digitization of the File of geodetic information is going on.” (CUZK, 2019)

The real estate cadastre provides information that is effectively used to ensure the protection of the rights of real estate objects, to determine the amount of taxes and payments, to protect the environment, land and flatter soil funds, fossil wealth, cultural monuments, for scientific, statistical and economic purposes, as well as to create new information systems. The Czech real estate cadastre has a territorial structure: each region has its own cadastral department (katastrální úřad), which organizes and controls the activities of the cadastral offices (katastrální pracoviště) located in large cities.

The cadastral territory (katastrální území) is taken as the base unit in the cadastre of real estate. The entire area of the Czech Republic is divided into 13,037 cadastral territories. Accordingly, any object of real estate, in whatever place it is, belongs to one of them.

Prague, for example, is divided into 112 cadastral territories. The name of the territory to which a particular property belongs, often located together with the name of the street or the sequence number of the building in a red plate that is attached to the facade of the building. Examples of Prague cadastral territories: Hradčany, Malá Strana, Strašnice, Nové Město, Nusle, Dejvice and others. (CUZK, 2019)

3.5 Taxes

3.5.1 Property tax

Real estate tax consists of a land tax and a building and unit tax. The subject of the tax is the land registered in the Land Registry, taxable buildings (buildings and engineering structures listed in the annex to the Real Estate Tax Act) and units (flats or non-residential premises). Property tax is the only tax that is paid in advance: for example, for year 2019 the tax return should be filed till January 31, 2019. It is obligatory for anyone who became the owner of the property in 2018. The key point is that who owns the property on January 1, 2019 - he submits a tax return and pays a tax for 2019. (penize.cz, 2018)

3.5.2 Real estate purchase tax

The Act on Real Estate Transfer Tax was replaced in 2014 by Act No. 340/2013 Coll. The tax on the acquisition of immovable property (real estate purchase tax). The tax rate is 4% of the tax base, which usually is the price of the property. The major change that occurred since 1 November 2016 is a person who pays tax. Until then, the tax return was filed with the seller (though the contract could have been agreed to pay the buyer's tax). Now this tax is paid by the buyer, that becomes the owner of the property. The first purchase of a new building is exempt from the tax on the acquisition of real estate. It must take place within five years of the completion of the construction. (finance.cz, 2018)

3.5.3 Income tax

Income tax are paid by natural and legal persons. In the Czech Republic income tax for natural person is 15% and for legal person – 19%. In many cases, ownership of the real estate property can be preferred by natural person. In that case, it is possible to eliminate the income tax by selling an immovable property after 5 years of ownership (the income does not have to be taxed in the Czech Republic). One more possibility not to pay income tax from the selling an immovable property for the natural person is to have permanent residence in that property for more than 2 years. (penize.cz, 2018)

4 Practical Part

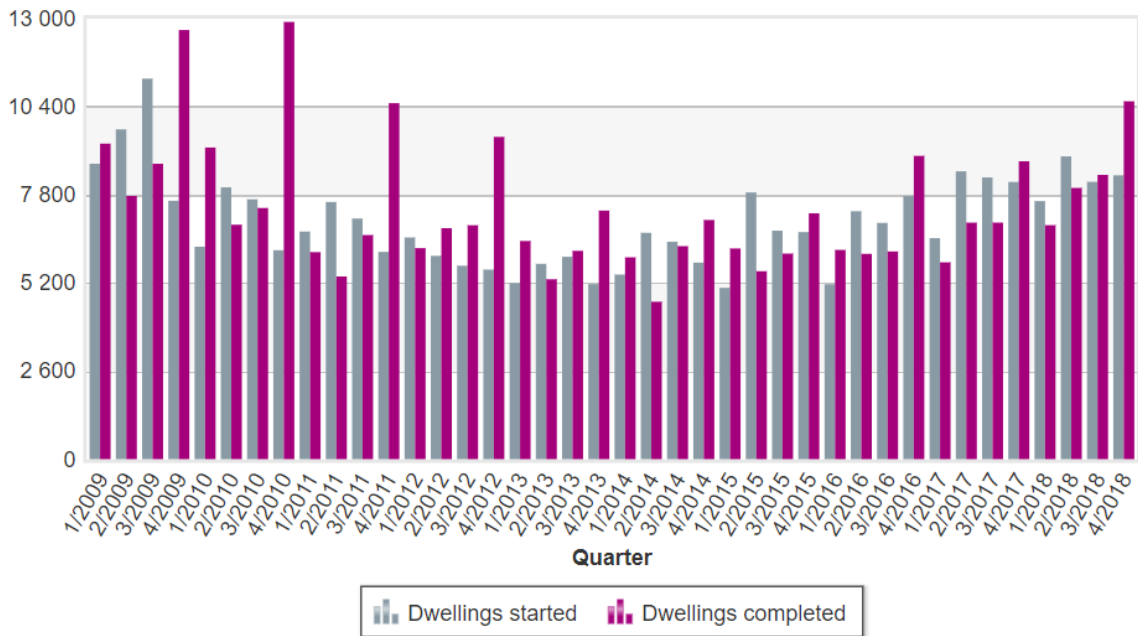
4.1 Analysis of Czech real estate market

Period after crisis from 2008 to 2012 was difficult for Czech real estate. The market has not collapsed, but the number of buyers has significantly decreased. However, in 2014 a weak price increase was observed in some of its segments. Contributed to this economic recovery and a sharp decline in the cost of mortgage loans. And in 2015, demand exceeded supply, it became harder to buy than to sell, and prices accordingly began to rise. According to Western analysts, from year to year all records on investments in Czech real estate are breaking. The level of investment has increased significantly, mainly due to German and Austrian investors. However, there is also incessant interest in acquiring real estate from representatives of the UK, Germany, Holland, USA, China, other Asian countries and CIS countries.

4.1.1 Construction

As we can see from the graph below nowadays number of started and completed dwellings decreased from year 2010. It is one of the reasons why today's prices are so high. The lowest number of dwelling was constructed in year 2014 (23 954 pieces). So, the supply decreased but the demand otherwise grew up due to low interest rates that banks offered to their clients and possibility to take a mortgage without initial fee. The prices for real estate began to grow up and developers started to construct new buildings. The average annual growth in construction from year 2014 is 9,1%.

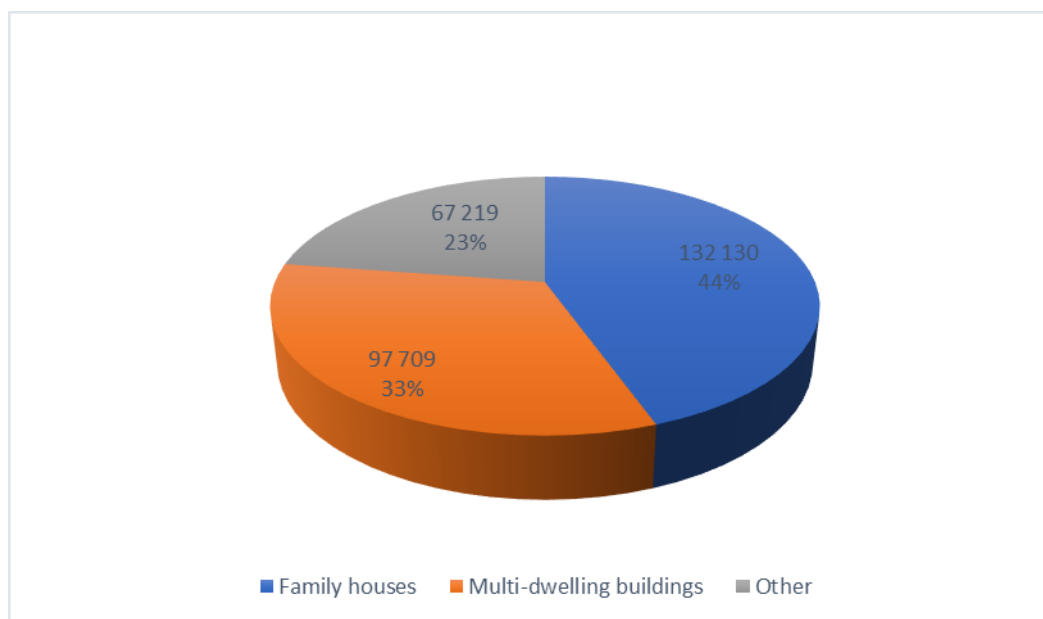
Figure 2 Dwelling construction in Czech Republic (pcs.)



Source: CZSO, 2019

We can divide dwellings into three large groups: family houses, multi-dwelling buildings and other (such as retirement homes, non-residential buildings ect.). The chart below shows ratio of these types of dwelling. The most part of dwellings constructed during last 9 years are family houses (44%).

Figure 3 Number of completed dwellings from 2009 to 2018 by its type



Source: CZSO, 2019, own calculations

4.1.2 Price

The table below provides information on average apartment prices per m² in the individual regions of the Czech Republic from 2017 to the present. From this table we can see that the highest apartment prices per m² are recorded in Prague, South Moravian Region (especially Brno) and Central Bohemian Region. On the contrary the smallest price is in Usti nad Labem Region and Moravian-Silesia Region. However, prices are rising steadily in every region. Since the end of 2015 prices in Prague grew up by almost 30%.

Table 1 Price per m2 in Czech Republic (Prague and regions, CZK)

Region name	Q4 2015	Q2 2016	Q4 2016	Q2 2017	Q4 2017	Q2 2018	Growth 2017(Q2) - 2018(Q2)	Growth 2015(4Q) - 2018(Q2)
Prague	56 400	60 300	62 100	65 700	70 800	71 800	9%	27%
Central Bohemian	28 800	33 400	37 600	39 500	41 500	45 500	15%	58%
Hradec Kralove	31 200	32 700	35 700	36 900	39 000	42 300	15%	36%
Karlovy Vary	22 400	23 600	23 500	22 700	24 500	26 700	18%	19%
Liberec Region	23 300	26 100	28 700	28 500	31 600	34 300	20%	47%
Moravian-Silesia	17 300	17 300	17 600	19 600	20 700	22 100	13%	28%
Olomouc	29 100	33 400	34 300	33 600	39 100	37 900	13%	30%
Pardubice	28 400	31 700	32 900	35 500	36 200	37 300	5%	31%
Plzen	29 400	33 800	34 800	35 100	36 000	38 000	8%	29%
South Bohemian	28 900	27 900	32 600	33 700	37 600	34 800	3%	20%
South Moravian	41 200	46 100	49 100	50 700	52 000	53 500	6%	30%
Usti nad Labem	10 000	11 400	11 100	11 800	13 800	15 300	30%	53%
Vysocina	23 000	23 900	27 900	29 000	31 600	33 800	17%	47%
Zlin	25 800	28 200	28 000	28 900	31 800	37 000	28%	43%
Czech Republic	41 800	45 000	48 100	49 800	53 700	55 200	11%	32%

Source: Deloitte, 2019, own calculations

Table 2 shows the average gross wage development from 2nd quarter 2017 to 2nd quarter 2018. The highest growth rate is in Karlovy Vary Region – 10,4%, and the lowest growth rate is in Prague – 6,2%. This happens due to the fact that in Prague is the highest

average gross wage in Czech Republic and its growth in percentage is less noticeable, than the growth in regions with the smaller wage.

Table 2 Average gross monthly wage in Czech Republic (Prague and regions, CZK)

Region	Q2 2017	Q2 2018	Growth (%)
Prague	36 194	38 436	6,2%
Central Bohemian Region	27 870	30 069	7,9%
South Bohemian Region	24 805	26 941	8,6%
Plzen Region	26 846	29 054	8,2%
Karlovy Vary Region	23 807	26 287	10,4%
Usti nad Labem Region	25 545	28 029	9,7%
Liberec Region	25 693	28 010	9,0%
Hradec Kralove Region	25 268	27 619	9,3%
Pardubice Region	24 655	27 002	9,5%
Olomouc Region	24 501	26 659	8,8%
South Moravian Region	27 003	29 346	8,7%
Zlin Region	24 276	26 431	8,9%
Vysocina Region	25 231	27 661	9,6%
Moravian-Silesia Region	25 115	27 125	8,0%
Czech Republic	27 889	30 265	8,5%

Source: CZSO, 2019, own calculations

From the table 3 we can see that the cheapest districts in Prague are Prague 4, Prague 9 and Prague 10. On the contrary the most expensive part of Prague is a city centre – Prague 1 and Prague 2. Since 2nd quarter 2016 the prices grew up in every region, the most rapid growth is observed in Prague 3 due to many developers project in this district, and the slowest – in Prague 10. Also from this table shows how prices per squared meter have changed from 4th quarter 2015 till 2nd quarter 2018. The biggest growth is in the Central Bohemian region, where prices grew up by 58% just in 2,5 years. In Prague this rate is 27% and in Czech Republic – 32%.

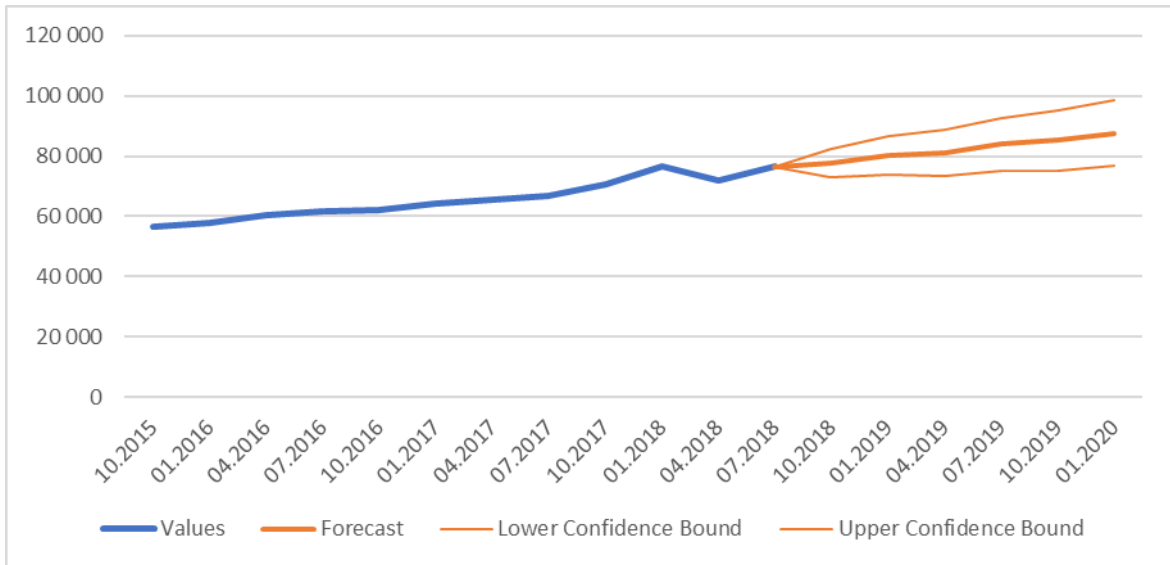
Table 3 Average prices per square meter in different Prague districts of all different kinds of constructions (CZK)

	2016 (2Q)	2017 (2Q)	2018 (2Q)	Average annual growth
Prague 1	107 300	122 200	145 200	35%
Prague 2	69 300	84 900	95 200	37%
Prague 3	64 300	73 200	89 100	39%
Prague 4	53 900	60 300	71 000	32%
Prague 5	64 400	66 800	73 400	14%
Prague 6	64 300	71 000	77 600	21%
Prague 7	68 300	79 600	86 800	27%
Prague 8	58 700	70 900	68 300	16%
Prague 9	52 500	56 100	59 400	13%
Prague 10	56 600	60 500	62 600	11%
Prague	60 300	65 663	71 800	19%

Source: Deloitte, 2019, own calculations

The crucial point in the development of real estate prices in the Czech Republic came in mid-2015. Since then, the cost of new apartments in Prague has risen by as much as 53.5%. At the same time, from mid-2013 until the end of the first half of 2015, housing prices increased by only 2%. There is a shortage of apartments in Prague. Due to the fact that institutions are afraid or simply don't want to issue permits for the construction of new dwellings, most buyers have to pay for housing much more than in previous years. On the graph below is shown development of average price per square meter in Prague according to Deloitte research and forecasting on the confidence level of 95% for 5 quarters from 4th quarter 2018 to 1st quarter 2020. According to this forecast I can predict that prices still will be increasing in Prague and average price per squared meter in Prague in the beginning of 2020 will be 87 640 CZK.

Figure 4 Average price per square meter in Prague - development and forecasting (CZK)



Source: Deloitte, 2018, own calculations

In fact, there is a slow, continuous decline in market activity in 2018. Sales are frozen across the Czech Republic due to mismatch between the buyer and seller's ideas about the real estate price. Real estate experts don't expect this situation to be reflected in price reductions in the near future. For a significant price decrease (tens of percent), there would take place something huge, such as an economic crisis. The adjustment of conditions by the CNB will not have such a strong impact. The decline in prices on the market will most likely first appear on more expensive real estate, such as large apartments with 4 + 1 or larger. In 2019 most experts are expecting stagnation or a slight increase in the largest cities, such as Prague and Brno.

4.1.3 Comparison to European countries

The European Union is one of the most dynamically developing the most diverse bloc of countries in the world. It includes countries with different economic situations. Thus, the price per square meter in London is 10 times higher than in Sofia, the capital of Bulgaria. The general trend of the European market is price increase. In many EU countries, prices per square meter have risen sharply last year. Prague and Lisbon have one of the highest growth rates among EU capitals in 2018.

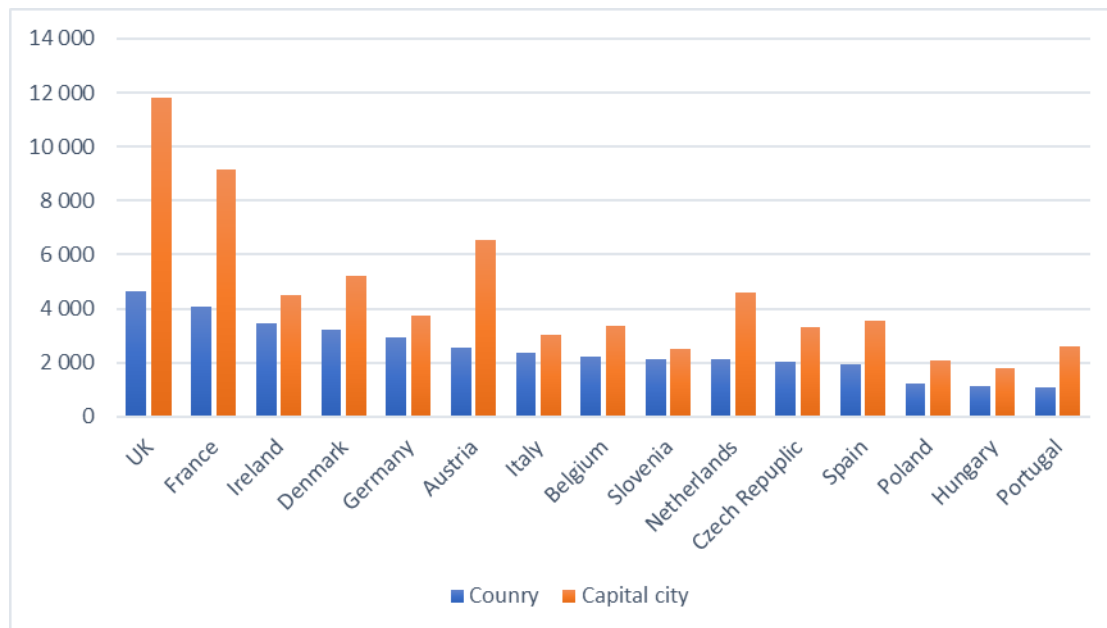
Table 4 Average prices per square meter of 28 EU capitals 2018 (EUR)

City	Average square meter price
London, UK	11 800
Paris, France	9 160
Luxembourg City, Luxembourg	8 200
Vienna, Austria	6 550
Stockholm, Sweden	6 636
Copenhagen, Denmark	5 236
Amsterdam, Netherlands	4 610
Helsinki, Finland	4 569
Dublin, Ireland	4 500
Berlin, Germany	3 750
Valletta, Malta	3 600
Madrid, Spain	3 540
Brussels, Belgium	3 366
Prague, Czech Rep.	3 316
Rome, Italy	3 044
Lisbon, Portugal	2 581
Ljubljana, Slovenia	2 500
Warsaw, Poland	2 068
Nicosia, Cyprus	2 011
Bratislava, Slovakia	1 945
Zagreb, Croatia	1 841
Budapest, Hungary	1 802
Tallinn, Estonia	1 794
Athens, Greece	1 470
Vilnius, Lithuania	1 469
Bucharest, Romania	1 328
Riga, Latvia	1 241
Sofia, Bulgaria	1 095

Source: Checkinprice, 2018

Median value of average prices per square meter in 28 EU capitals is 3 180 EUR. As we can see from the table above, one of two nearest to the median value cities is Prague. It shows that there is a good standard of living in Prague and it still has attractive prices to buy a property here. Also we can see, that prices in London, the most expensive city out of 28 EU capitals, is tree times more than median, and in Sofia, the cheapest one, is tree time less.

Figure 5 Price per m2 in EU countries and its capitals (EUR)



Source: own processing based on available data

Note: available data has no precise year, mostly data reflects situation in 2017 and 2018. The data are not comparable, they only illustrate the situation.

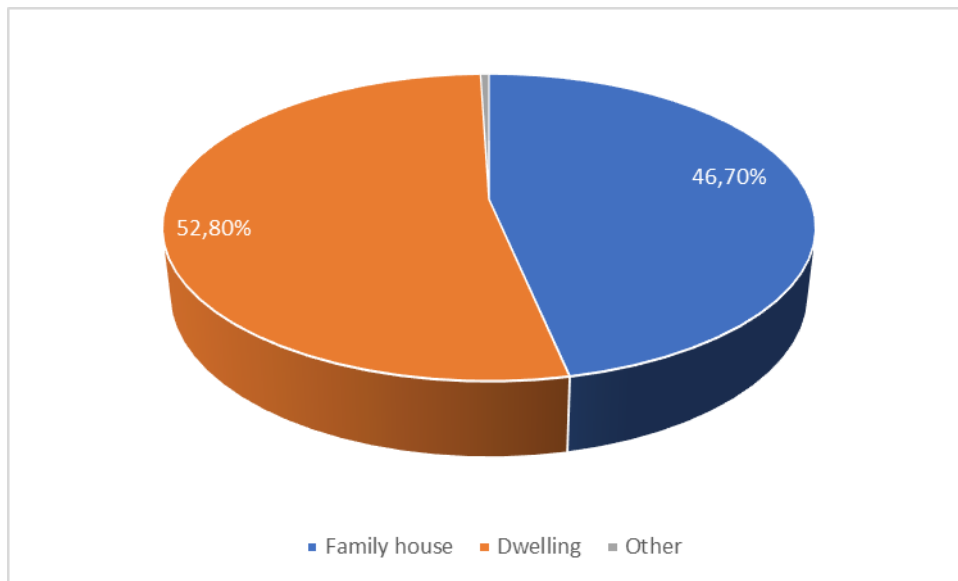
On the chart above we can see how differs the price per square meter in capital cities and in the whole country. The biggest difference is in UK and Austria, it is 61%, the smallest is in Slovenia – just 14%. The average difference in price between capital city and the whole country is 40%, and Czech Republic has 39%, that means it is in the middle. The difference between prices shows how urbanized the country is and how popular for investors the capital city is compared to the rest of the country.

4.1.4 Ownership rate

Family houses are home to nearly three-fifths of the European Union's population. While in the pre-crisis year 2007 there were 57.1 percent, at the end of 2014 it was 59.3 percent according to Eurostat.

Most people living in family houses is in the UK - 84.7 percent of the population. It is also very widespread in Croatia (80.8 percent), Belgium (77.6 percent) and the Netherlands (77.1 percent). On the contrary, living in dwellings are most represented in Spain, where 66.5 percent of people use this way of living.

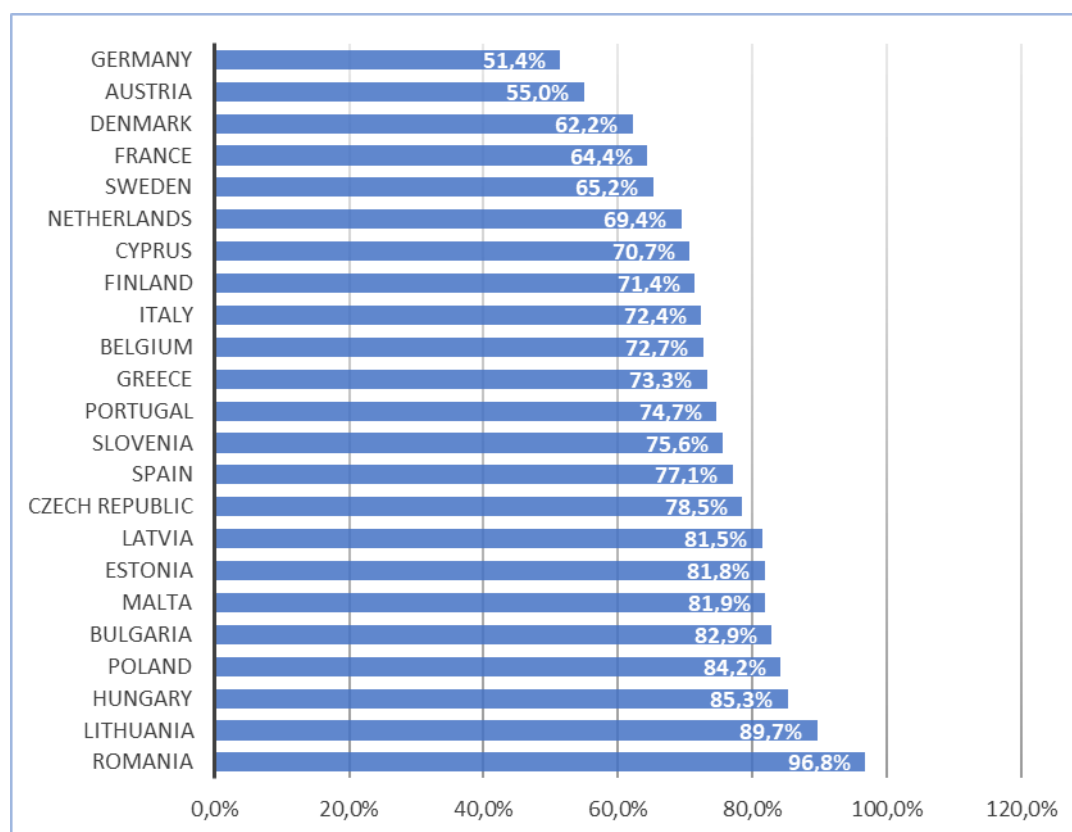
Figure 6 Type of property people prefer to live in



Source: Eurostat, 2014, own calculations

In the Czech Republic, 46.7% of the population live in a family house, of which 36.6% are in separate houses and 10.1% in semi-detached houses. There are 52.8 percent of Czechs living in dwellings - 39.9 percent of them in houses with more than ten apartments. The rest of the people use buildings that are not primarily intended for housing such as boats, chalets, or even schools.

Figure 7 Homeownership rate in selected EU countries in 2017



Source: Statista, 2017

A house or flat owns 70.1 percent of all Europeans, of which 27 percent pay a mortgage or other loan for housing. The rented flat has less than thirty percent of the EU citizens.

The highest rate of homeownership is in Romania - 96.8 percent. The main reason why Romania has the highest homeownership in Europe rate goes back to 1990s. Romania was under the communist regime and after the collapse of the Soviet Union there was a massive privatization of public housing. As a result homeownership in Romania changed from one of the smallest rate and became the largest in Europe. In the Czech Republic, a house or apartment has 78.5 percent of its population, of which 18.2 percent pay it for a mortgage or other loan. The highest share of housing burdened by debt - typically a mortgage - is in Sweden (61.3 percent) and in the Netherlands (59.2 percent). On the contrary, Romania and the Bulgarians live the least. Although homeowners have 96 percent and 84 percent of their homes, housing loans pay only 0.7 percent, or 2.7 percent,

respectively. People mainly live in leased property in Germany (48.6 percent), Austria (45 percent) and Denmark (37.8 percent).

4.1.5 Property affordability

Despite the fact that the Prague residents are the only ones in the Czech Republic who has average gross wages above the national average, to buy their own homes they need to save money for the longest time in the Czech Republic.

Buying an apartment or a house right from the owner is one of the most cost-effective options, but still a family house in the capital would need 467 average gross salaries - 39 years. The average price increases especially luxury houses and villas right in the center of the city, cause the demand is high and prices are increasing proportionally with it. Apartments are significantly cheaper in the capital, 130 average gross salaries are needed to buy an average apartment - 11 years. In comparison to the price of new flats from developer, purchasing an older flat directly from the owner is about a quarter cheaper.

Another is the situation in Central Bohemia, which is becoming more and more a refuge for those who can not afford to live in the capital. If Prague resident decides to buy a property in the Central Bohemian region, he will have 10 year-round gross salaries for the purchase of a family house and less than 6 year-round gross salaries for the purchase of the flat.

The comparison of the average wages relative to the real estate price also shows that there are not significantly better situation for the inhabitants of the South Moravian Region. It is easier, cause of the number of villages, to buy a family house there - 14 year-round gross wages are enough, but for the flat you will pay only one annual salary less than the Prague residents - 10 yearly gross salaries.

On the other hand, the most affordable housing can be found in the Usti nad Labem Region, where it is possible to acquire real estate for housing in less than 4 yearly gross wages, and then in Moravian-Silesia Region and Karlovy Vary Region where 51 monthly gross wages would be needed, i.e. a little bit over 4 yearly gross wages,.

The sales market was doing well. In the third quarter 2018, people have sold between them 75% more real estate than at the beginning of the year and prefer selling by themselves than through real estate agents.

Table 5 How many average wages people should save to buy a property in different regions of Czech Republic

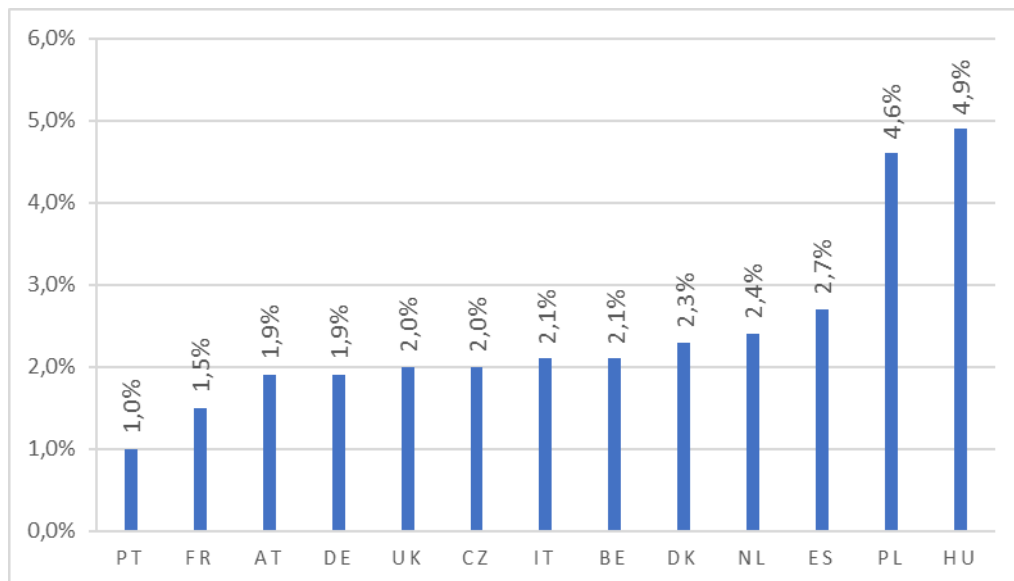
Region	Flat			Family house		
	Ø price Q2 2018 (CZK)	months	years	Ø price Q2 2018 (CZK)	months	years
Prague	5 009 456	130	10,9	17 967 071	467	39
Central Bohemian	2 591 532	86	7,2	4 614 332	153	12,8
South Bohemian	1 857 925	69	5,7	3 319 750	123	10,3
Plzen Region	2 041 517	70	5,9	4 408 000	152	12,6
Karlovy Vary	1 154 243	44	3,7	2 152 500	82	6,8
Usti nad Labem	838 000	30	2,5	2 970 000	106	8,8
Liberec Region	1 387 142	50	4,1	3 482 111	124	10,4
Hradec Kralove	2 375 631	86	7,2	2 525 000	91	7,6
Pardubice	1 717 400	64	5,3	3 382 272	125	10,4
Olomouc	2 072 969	78	6,5	2 210 555	83	6,9
South Moravian	3 520 458	120	10	4 798 402	164	13,6
Zlin	1 821 666	69	5,7	2 408 750	91	7,6
Vysocina	2 037 895	74	6,1	2 380 461	86	7,2
Moravian-Silesia	1 180 982	44	3,6	2 292 230	85	7
Czech Republic	3 179 129	105	8,8	4 599 146	152	12,7

Source: Bezrealitky, 2018, own calculations

4.2 Mortgage

The Czech Republic is ahead of the EU countries in real estate prices growth last year by an average of 16%. This is reported by the Czech National Bank in its annual Financial Stability Report. The National Bank believes that prices are becoming increasingly overstated - an average of 15%. From the chart below we can see that interest rate in Czech Republic was quite low in 2017.

Figure 8 Average interest rate of mortgage loan in EU countries in 2017



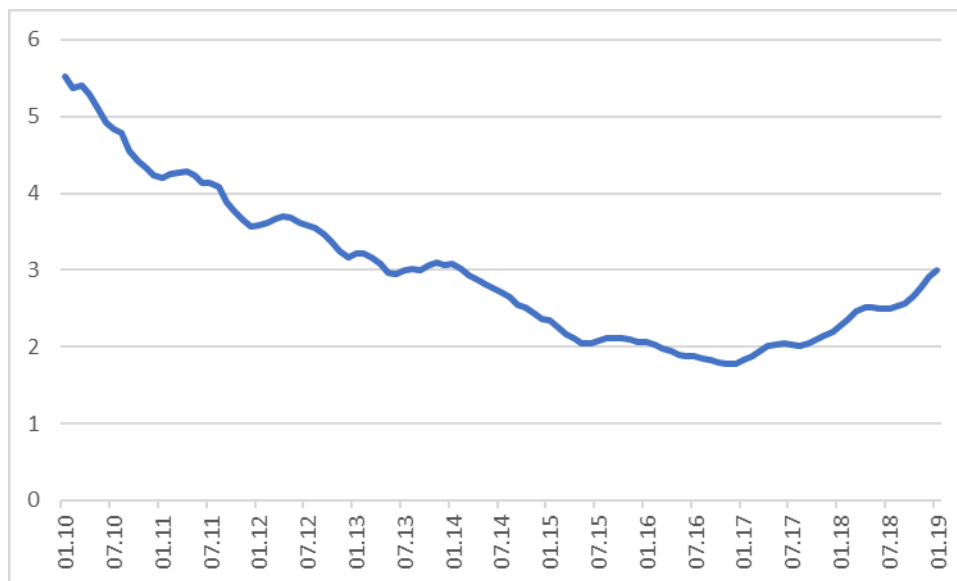
Source: Deloitte, 2017, own calculations

As we can see from the table 1 and 2, the housing prices grow up faster than average wages go up. For instance, from 2nd quarter 2017 to 2nd quarter 2018 the average gross monthly wage grew up by 6,2% while the price per square meter in Prague grew up by 9%. This makes borrowers who want to buy real estate, more and more vulnerable. In the future, probably more and more people who apply for loans will be at risk.

Interest rate

Interest rate is one of the most important factors affecting the demand for real estate. Of course, most people don't want to get involved in bondage, but because of high real estate prices, saving money will take a lot of time and easier is to take a mortgage. Therefore, the main source of financing is mortgage banks.

Figure 9 Development of interest rates of mortgage loans in Czech Republic (%)



Source: Hypoindex, 2019

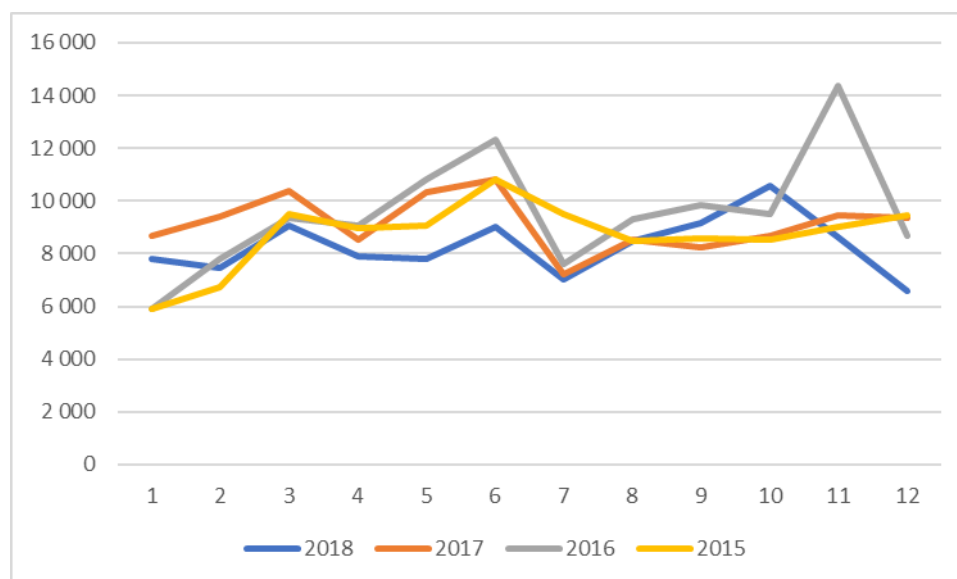
The chart shows that since 2010 interest rates were decreasing until the beginning of 2017. Since the beginning of this period, interest rates have started to grow rapidly. Historically, the best conditions for the mortgage were in November and December 2016, when the average interest rate was 1.77%. On the one hand, it was a record low price of money. Banks could borrow cheaply, and due to their intense competition, they also lent money cheaply to their clients. On the other hand, experts warned that many banks are pushing mortgage prices down to the limit of carrying capacity to get new clients. It was clear that it is only a matter of time when interest rates start to rise again.

The prices of mortgages are also increased by other factor - recommendation of the Czech National Bank. CNB didn't like the fact that banks received too high risks. As a result, it issued a set of recommendations.

The first recommendation for banks has limited the provision of 100% mortgages. However, the situation didn't improve as the CNB expected, there were other recommendations aimed at limiting lending to housing with a high LTV (loan-to-value). Since October 2016, banks have not provided loans above 95% LTV. Loans in the range of 85-95% LTV may provide, but only up to 10% of the total volume of new loans for housing. Since April 2017, a recommendation has emerged that 80-90% LTV mortgages should be provided for up to 15% of all secured real estate. And mortgages above 95% of LTV should no longer be provided by banks.

From 1st October 2018 the Central Bank prepared new restrictions that make owning a property in the Czech Republic less affordable. Now the monthly mortgage payment should not exceed 45% of the revenue for the month after taxes. In general, loan recipients will be able to borrow amount that doesn't exceed nine annual salaries of a person. The chart below shows how restrictions influenced the mortgage market. There was growth in number of mortgages from July 2018 till October, cause people already knew about new tightening and tried to take mortgages before it. And right after the new restrictions were set the number of new mortgages started to decrease rapidly.

Figure 10 Number of new mortgages in Czech Republic from 2015 to 2018 by months (pcs.)



Source: Hypoindex, 2019

Still, most of the borrowers will be able to take mortgages in the amount of no more than 80% of the value of the acquired property. Only 15% of mortgage loans can be issued in the amount of up to 90% of the value of real estate. Also, banks should have to study in more detail the financial capabilities of clients wishing to get a mortgage. If to analyse the data, on what conditions and to whom the banks issued mortgage loans in the second half of 2017, then using the new recommendations of the National Bank, we can assume that 10% of potential borrowers will not receive a mortgage.

Restrictions on the total amount of debt and the ratio of monthly payments and incomes apply in 15 EU countries, of which in 9 countries they are subject to legal norms (in the rest - in the form of recommendations). All three limits, considering the ratio of the

amount of mortgage and the cost of real estate acquired, among the EU countries are valid only in the Netherlands and Slovakia. Austria will join them soon.

4.3 Investments

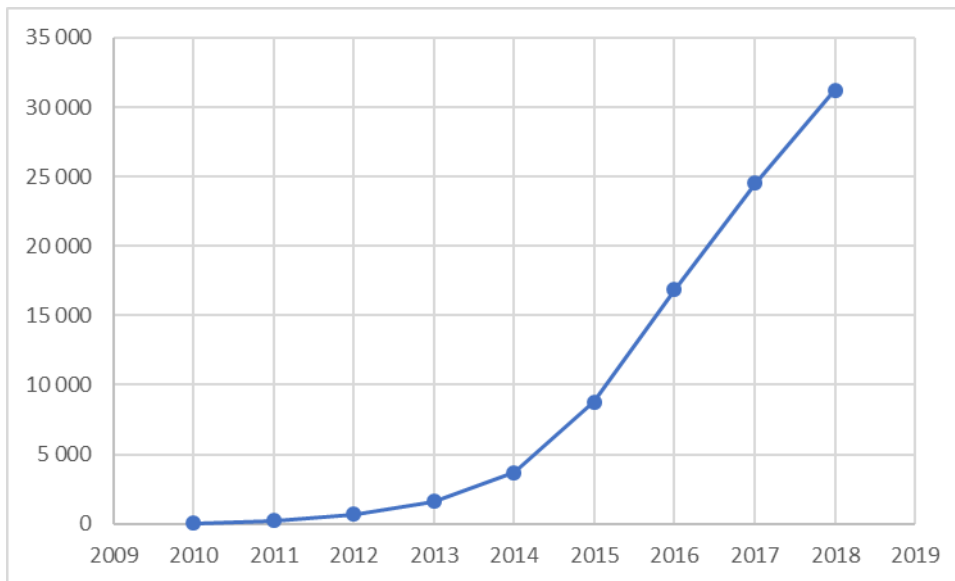
One of the trends is the change in the reasons for buying a property. Previously, housing was purchased primarily for personal use, but nowadays more and more purchases have been made with the aim of subsequent renting housing and receiving regular income. Also, during the construction period, which for residential projects is about one and a half years, prices for the object under construction rise by about 15%, so the investor can easily earn money on that.

As I already mentioned there is 2 options of renting a property – long-term and short-term. Let's decide the best option among these two for investor.

4.3.1 Short-term rent

It is a daily rent of the apartments through such web portals as Airbnb, Booking, ect. These services for short-term rental properties are becoming more and more popular among tourists who do not have to sleep in standard hotels as well as among owners of free apartments, as they are, at least in the short run, more profitable. According to statistics, the Czech Republic takes the fourth place in short-term rentals - after London, Paris and Rome.

Figure 11 Rental growth expressed in total cumulative earnings in Prague (in mill. \$)

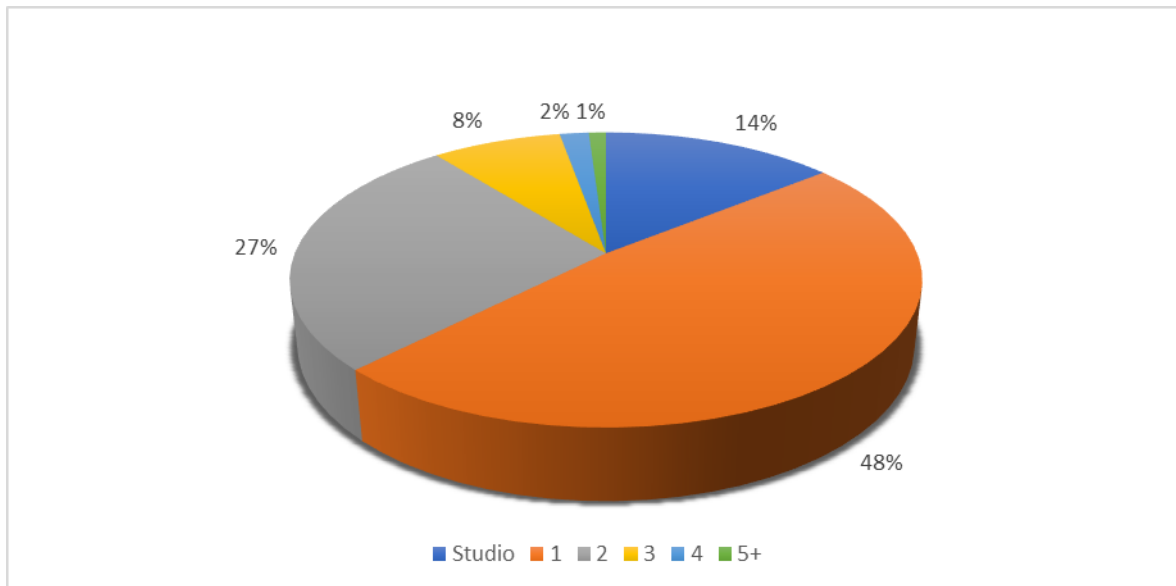


Source: AirDNA, 2019

As we can see from the chart above short-term rent is developing rapidly. There is 27% growth in total cumulative earnings just in one year from 2017 to 2018. According to AirDNA, half of the offers in Prague are occupied more than 53%. There are more than 15 days per month when someone is using it. Even so the owner pays off. The average daily price for a studio is CZK 1,316, for one bedroom, which is the most frequent apartment in AirBNB in Prague, it is 1,619 CZK and for three bedroom it is CZK 3,593.

The average profit the owner of the one bedroom apartment receives monthly is CZK 24,285, which is not bad. In addition, this fee does not include a cleaning fee that can be charged by the owner. And we are talking only about averages. A tenth of the most used apartments occupy 86%, or they are leased almost a month.

Figure 12 Rental size of apartment for short-term rent according to the number of bedrooms in Prague



Source: AirDNA, 2019

Such a business is successful, especially if you know all the nuances of a short-term lease. For a complete presentation of the apartment online, it is necessary to describe the area and the apartment itself well. Be sure to have high-quality photos of each room, home and neighbourhood. People will choose your apartment from a variety of other offers, so it is necessary that it looks as attractive as possible. Part of the business of short-term rental is high service. It includes clean rooms, fresh linens, etc. Your income will depend on where the apartment is and how it looks. It is very important to fully furnish the apartment, including an equipped kitchen with dishes. For the guest, the location of the apartment and its transport accessibility will be of paramount importance. Therefore, if you plan to buy an apartment in Prague for short-term rental, then it should be an apartment in the city center (Prague 1, Prague 2).

4.3.2 Long-term rent

Another possibility to rent a property is a long-term rent. Due to the rise in prices for apartments in Prague, the cost of their rent is also increasing. According to the table 6 prices for studio apartment start at 10 000 CZK per month, for one-bedroom apartments – from 14 000 CZK, for two-bedroom apartments - from 20 000 CZK, for three-bedroom

apartments - from 28 000 CZK and more. All these prices are without utility payments, which starts from 3 000 CZK for studio apartment. The rental price will primarily depend on the location and condition of the apartments. Thus, a one-room apartment in a new building near the metro may well surrender for 17 000 per month. But the price of such an apartment will be much higher. Luxury housing will find its tenants for 125 000-270 000 CZK. Such price could be for exclusive apartments in the historic center of Prague. The average annual yield from the delivery of apartments in Prague is at the level of 5-6% per annum. If you use the services of property management companies - about 4%. In the Pilsen Region, the yield, considering the volume of initial investment, can be twice as high and reach 10-12% per annum. The buyer should have in mind the general state of the regional market and to obtain a stable income to find a professional real estate agent.

Table 6 Average renting price per square meter in Prague districts (CZK)

	02.2018	12.2018	01.2019	02.2019
Prague	345	341	348	358
Prague 1	413	441	443	439
Prague 2	398	391	394	392
Prague 3	362	354	364	353
Prague 4	298	293	289	287
Prague 5	334	351	351	349
Prague 6	300	308	316	314
Prague 7	318	327	333	334
Prague 8	298	311	312	314
Prague 9	278	282	282	293
Prague 10	293	298	299	300

Source: Realitymix.cz, 2019

4.3.3 Best investment option

In this part I will figure out which option of apartment renting to choose by calculating and comparing return on investment indicator. For that /purpose I will take one-bedroom

flat, 50 m², in new building in Prague 3 as an example. The price of such flat is 5 000 000 CZK. In case of short term-rent, according to AirDNA, the occupancy in Prague is 53%, that is almost 16 days per month, and the average price per night for one-bedroom apartment is 1619 CZK. That means, that average annual revenue is 308 905. But there is also commission of Airbnb or Booking, that is around 15%, and income tax for natural person is 15%, so net revenue is 223 184 CZK per year. Return on investment (ROI) is 3,3% and payback period is 30 years. In case of long-term rent, according to table 6, the price for rent for such apartment is 17 700 CZK, occupancy rate is much higher than in short-term rate (I assume that it is 11 months per years, cause than the tenants changing there is some time when apartment is empty), that gives 195 408 per annum before tax and 166 097 after. ROI in this case is 4,5% and payback period is 22 years. So, as we can see short-term rent is more profitable, but of course there is pros and cons for each type of rent. For instance, short-term rent is more complicated, because people are changing in flat a lot of time per month and apartment should be cleaned up after each person, also someone should meet arriving people. On contrary for long-term rent the owner of the apartment should just once to find tenant for couple of years.

Table 7 Comparison of long-term and short-term rent by financial ratios

	Property price (CZK)	Occupancy rate per year (%)	Price per day (CZK)	Expected revenue per month (CZK)	Expected revenue per year (CZK)	Costs and taxes (CZK)	Net revenue (CZK)	ROI (%)	Payback period (years)
Long-term	5 000 000	92%	-	17 700	195 408	29 311	166 097	3,3%	30,1
Short-term	5 000 000	53%	1 619	25 742	308 905	85721	223 184	4,5%	22,4

Source: AirDNA, Realitymix, 2019, own calculations

5 Conclusion

This bachelor thesis deals with the overall situation in the real estate market, the development of property prices and the factors that affect this price. It also shows some problems, which is associated with the real estate market.

The theoretical part of the thesis based on the research of specialized books, scientific magazines and internet resources provides basic information about real estate market and the general characteristics such as features, classification, subjects, evaluation methods. Also, it deals with the basic concepts and factors that influence the supply and demand on the real estate market, the reasons of high prices on real estate, and the benefits and the disadvantages of investing in real estate.

The practical part analyses the development of real estate prices in the Czech Republic, its comparison to other European countries, the mortgage market, the affordability of the real estate purchase, the possibilities of investing in real estate.

To sum up, over the last few years situation on Czech real estate market was very favourable and attractive for investors. Since 2015 there is growth in prices on real estate market in the Czech Republic and on the average prices rose by 37 %. Due to low interest rates, a lot of people bought new properties, some of them as an investment, others – for living. Prague real estate had a high liquidity, especially on the primary real estate market, and, if only person wanted to sell the property, he could do it without any losses. But situation started to change in 2018. Due to high prices, that are reaching the historical maximum and new restrictions on mortgages from the Central Bank, the demand on real estate is slightly decreasing. Experts predict the period of stagnation on the Czech real estate market.

Anyone who wants to deal with the issue of housing should know what is going on in the real estate market. Investing in real estate is without any doubt one of the most sensible and stable investment ever.

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