

RESIDENTIAL MARKET

RESIDENTIAL MARKET 2018 ANALYSIS

In research performed by ARTN, the residential market was identified as the part of the real estate market that is going to change the most, and also as a market that is one of the most attractive markets with regard to investments by research participants.

There should be more new construction of apartment buildings in the future. It is most likely that financial resources will get more expensive and access to them will be more limited.

An act on real estate mediation settling the unregulated environment of real estate brokers should be adopted.

In terms of rent and sales price development, respondents predict a continuous moderate growth.

Housing is an important economic, sociologic and investment tool, and it is an integral part of the market economy. The responsibility for securing housing lies primarily on each individual, and government aid should only target the people who are competent to housing but objectively cannot afford it.

The costs related to housing are the biggest part of consumption expenditure for most households. The residential market, if properly set up, creates a good mood in society and supports demographic development and the labour market.

The market needs to be understood in its entirety, not separately by individual segments. It has its specific properties that arise from

„The development in 2018 is going to be similar to that of last year. In the field of residential real estate we can expect a further slight price increase, which is caused by the lack of new apartments. Even though there is a supply of second-hand real estate, usually older apartments in panel constructions, such apartments usually require further and quite large investments in reconstruction. There is only a limited supply of affordable apartments in the long-term, and it is getting even more limited due to the generally good economic situation, particularly the increase in wage and the interest of Czech people in their own housing.“

Zdenka Klapalová, Knight Frank

the necessity of the functioning of both market principles and state interventions with regard to public aid. An unsuitable housing policy, and if the housing policy is not applied in a sufficient extent in the cases where it should be applied, makes the situation regarding housing here worse. Housing should rely on the market economy, and if it is perceived as public good, it shows signs of distortions and injustice.

In terms of the number of apartments, the situation in the Czech Republic is quite satisfactory. On the contrary, the quality of the housing fund is low in the long-term. There is a high accumulated debt on maintenance and modernisations, and this also gives rise to higher pressure for new construction. In the past year, however, the situation has been getting even worse, and it is no longer sustainable. In this part of the "Residential market" chapter you will find information about the current state, actual impacts and possible solutions.

ASPECTS OF THE HOUSING MARKET

In terms of demand and supply, the residential market is very competitive as demand and supply fundamentally influence it. But the housing market is also very rigid. It responds to changes in conditions slowly, and its elasticity rate is low. The state also influences this market a lot with its interventions. These can be positive, but they usually influence the market negatively because of their unsuitable support.

The housing market can be highly ineffective. For example, it creates price bubbles. Price volatility has been increasing recently, and it is not easy to evaluate. Many transactions also have other specific features that cannot be revealed from available data. Data about the average prices of apartments that are relativized for m², the price median, price movement indices and other data popular in the media are only interesting information, but they are really not relevant from a practical point view.

There is no uniform method for processing data from the market, and just obtaining such data is very often quite complicated. Access to reliable and sufficiently detailed information from the reporting real estate entities is not something everyone is granted. It is expensive to obtain them, and their further processing is time-consuming. Unfortunately, it very often happens that due to the lack of quality data, important state institutions, including the Ministry for Regional Development of the Czech Republic, use information sources of disputable quality, and their conclusions may not be correct. Therefore, general data on prices, their development, indices, etc., must be understood as one of the (limited) resources. For example, there is also the representative Repeat sales index, which compares price changes in one location, one street, in the same building, etc.

The above-mentioned facts are furthermore complicated by the complex process of establishing the market prices of real estate, which are dependent on a number of parameters. They are also influenced by household incomes, the stability of the labour market, the demographic situation, money availability, etc. Demand, supply and prices show little elasticity.

WHAT BOTHERS THE HOUSING MARKET? MORE STATISTICS...

The problems of the current housing market in the Czech Republic can be seen in the small number of transactions, rigidity, halted new

construction of apartment buildings, the lack of a state housing policy, and the failure of the social housing system. Many transactions take place without the cooperation of real estate agencies, which have not been able to fulfil the role of professional advisers in the long-term. The job of a real estate agent is not regulated in the Czech Republic on the contrary to the developed world, so anyone can do it. This unfortunately leads to many excesses, mistakes, and most importantly, a loss of confidence.

The Ministry for Regional Development of the Czech Republic has been preparing an act on real estate mediation for several years now. It is unfortunately not highly ambitious, but it can still help significantly. Real estate agents will be considered to run qualified trades instead of unqualified, so it may hopefully have a positive impact on their knowledge and reliability. The number of real estate intermediaries must also be reduced. The market should get new rules and greater transparency.

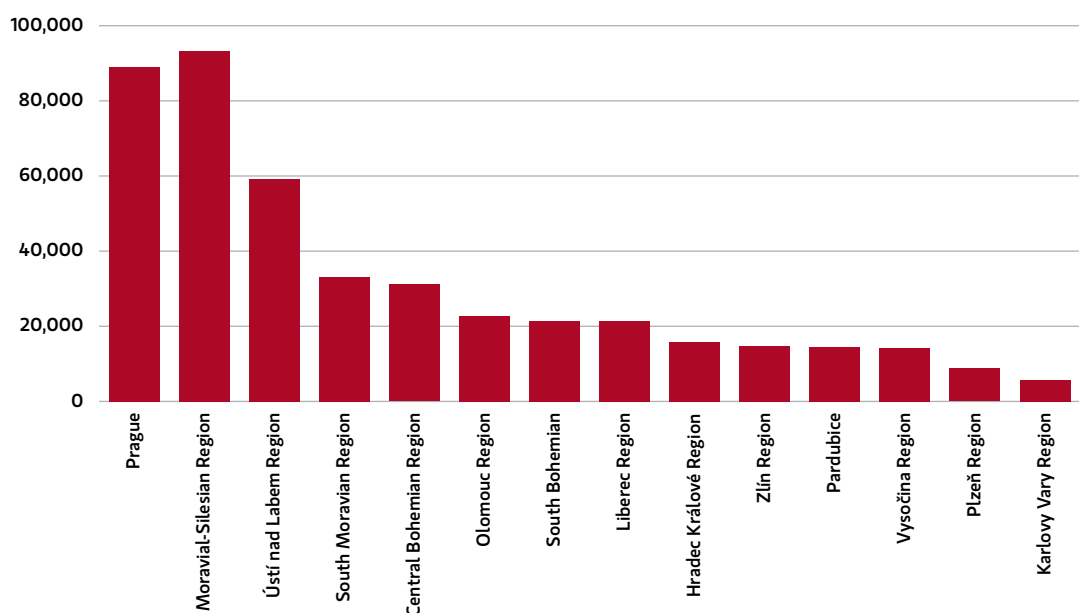
The number of transactions in the real estate market is low compared to Western Europe or the developed world, the market is shallow and more prone to fluctuations. According to our estimates, an apartment changes its owner every 20 years, and houses change their owners approximately every 45 years. This very conservative approach to the ownership of real estate is slowing the mobility in the labour market and making the optimisation of housing costs in the Czech Republic worse.

The extent of the housing fund in apartment buildings and its changes bring the following graph with figures. The largest number of housing units in the Czech Republic is in houses:

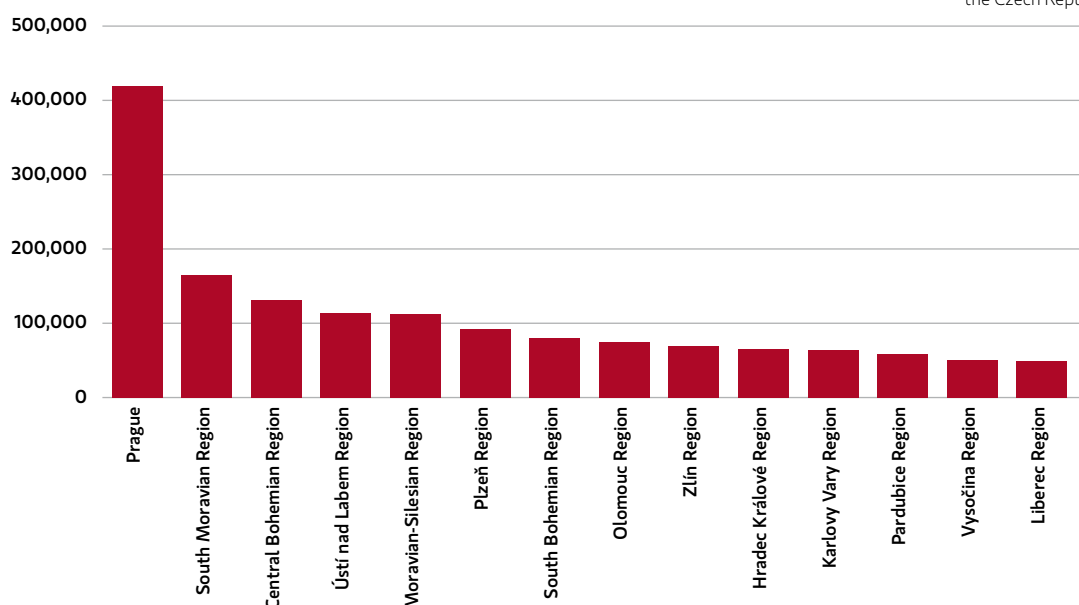
Cooperative apartments in the Czech Republic; the total number in the Czech Republic in 2016 was 445,102 units

Apartments in SVJ (associations of unit owners) in the Czech Republic; the total number in the Czech Republic in 2016 was 1,546,857 units

GRAPH The number of cooperative apartments in 2016



GRAPH The number of apartments in SVJ in 2016



Source: Czech Statistical Office, the Ministry for Regional Development of the Czech Republic, Central Europe Holding a.s.



Since 2014, the State Administration of Land Surveying and Cadastre (ČÚZK) does not publish the number of entries of apartments in the registry; the transfers of cooperative apartments have never been recorded. It is therefore difficult to obtain the number of transactions and the data are merely illustrative. The number of all entry proceedings for apartments in Prague, including privatisation, transfers within families, etc., show the depth of the market, not the numbers of sold apartments on the basis of real demand / supply.

TABLE Flats sold in Prague

Source: ČÚZK, Central Europe Holding a.s.

2017	33,278
2016	33,849
2015	30,618
2014	24,153
2013	31,181
2008	ca. 30 % more

More appropriate data about transactions with housing real estate is the number of entries, which also include purchase prices. From 2014 to January 1, 2017, 53,555 housing units were sold in Prague (the average from those 3 years is therefore ca. 4,463 housing units sold in a quarter of a year). The sales from mid-2016 are depicted in the following table by quarters. The table points out the gradual decline in apartment sales in Prague in the past months.

TABLE Flats in apartment buildings

Source: ČÚZK, Central Europe Holding a.s.

IVQ 2017	3,918
IIIQ 2017	3,942
IIQ 2017	6,101
IQ 2017	3,752
IVQ 2016	4,846
IIIQ 2016	4,453
The average for a quarter since 2014	4,430

20,375 new units in apartment buildings in Prague have been completed thanks to developers since 2014. It is clear from the available data that the market with new apartments is approximately a fourth of all transactions in Prague. In other cities of the Czech Republic, this percentage is negligible.

New apartments in the construction of apartment buildings¹ (ca. 95 % of them are developers' projects, the rest is covered by the city, cooperatives, etc.)

TABLE New flats within the framework of new housing in Prague

Source: ČÚZK, Central Europe Holding a.s.

2017	4,094
2016	5,033
2015	7,356
2014	3,892
2013	2,871
2012	2,942
2007	7,908

IS IT WORTH INVESTING IN AN APARTMENT BUILDING?

Investment in the purchase of an apartment building is quite a complicated thing in terms of the need to obtain quality data, the need of experience, and securing financial resources for the purchase and subsequent maintenance. Without sufficient resources, this type of investment may be problematic. On the other hand, it can bring high appreciation in continuous income from rents and the potential growth of its price. The risk can be in the relatively low number of transactions, which is proven in the table.

The numbers of realised transactions are not high, they are below ten. This is why it is necessary to treat the statistics and the year-on-year comparison with caution. There might also be some additional

TABLE

Source: ČÚZK, Central Europe Holding a.s.

Location	Transaction			Average price	Transaction	Average price
	2014	2015	2016	CZK/m ²	2017	CZK/m ²
Nové Město	10	20	15	50,614	16	98,400
Žižkov	9	13	13	32,600	7	43,000
Vinohrady	8	10	12	42,500	10	57,700
Smíchov	4	11	15	28,500	4	67,000
Nusle	6	5	12	38,200	8	39,700
Holešovice	4	10	7	24,700	5	50,300
Libeň	7	4	7	38,900	9	39,350
Staré Město	6	5	6	64,300	6	150,100
Malá Strana	5	3	5	94,700	6	123,500
Vršovice	3	5	4	30,600	8	57,700
Karlín	6	3	3	38,500	9	54,800
Košíře	2	4	3	34,800	1	53,659
Bubeneč	2	2	4	31,100	4	67,700
Strašnice	2	0	3	25,100	1	64,900
Vyšehrad	0	1	2	54,800	2	126,700
Josefov	0	2	1	58,020	0	0
Dejvice	0	0	1	55,000	1	37,100

¹ It can be compared to the data in the "The development of new flats" section where data about the current supply of free apartments and the number of sold apartments in the reference period are given.

provisions that cannot be observed from the data that only focus on the prices. Yet it can be flatly stated that the prices of apartment buildings in Prague have increased significantly, by tens of percents, compared to previous years. But there is a high probability that the buildings were not purchased to rent the individual apartments but to reconstruct them and sell the apartments.

The possession of apartment buildings is an important part of the sector of rental housing in the Czech Republic, and it is largely in the hands of private owners. Despite the proclaimed support of rental housing, which is part of the state housing policy, it can be said that this sector is rather adversely affected by the state. In terms of legal regulations, the right of the lessor for the protection of his/her property and the collection of debts on rents or damage to property are not secured. Courts still work very slowly and are not very predictable.

The problem for bigger owners of apartment buildings is VAT. Because apartment renting is exempt from this tax, lessors cannot deduct the input VAT and the maintenance of properties gets more expensive. Along with other regulations, the state creates a fragmented environment that adversely affects the lessors by the useless Energy Performance Certificates, repeating inspections, etc.

ply claimable for everyone without further conditions, and it also should not adversely affect the property rights of lessors or development companies in the way it was included in the previous draft.

Another risk of the rental market lies in the enforcement of the proposal of the Ministry of Finance of the Czech Republic on the increase of the personal income tax rate for rental income. This would be another regression against the state housing policy, which would lead to reducing the resources of lessors usable for the renovation of buildings and another discouragement for renting properly and transparently.

Rents in Prague have increased during the past two years, but we can get different information when we compare the rents advertised on real estate servers and in other advertisements with what the lessors claim. We have contacted several companies that focus on the management of apartment buildings, and we asked how much their rents are. Real rents are ca. 20 to 30% lower than in the advertisements on real estate servers or in the offer of real estate agencies! The ordinary rent in a common apartment lies within the range of 190–270 CZK/m².

For your information, we also include a table with the rents of apartments in Prague advertised on real estate servers³:

TABLE Rents according to real estate servers

Source: Internet, Central Europe Holding a.s.

District	Number of apartments on offer (1 room, 2 rooms)	from	to	Number of apartments on offer (3 rooms and larger)	from	to
Prague 1	191	322 CZK/m ²	447 CZK/m ²	213	274 CZK/m ²	700 CZK/m ²
Prague 2	245	310 CZK/m ²	650 CZK/m ²	235	247 CZK/m ²	687 CZK/m ²
Prague 3	178	316 CZK/m ²	519 CZK/m ²	94	263 CZK/m ²	585 CZK/m ²
Prague 4	222	348 CZK/m ²	587 CZK/m ²	113	183 CZK/m ²	294 CZK/m ²
Prague 5	252	276 CZK/m ²	493 CZK/m ²	182	200 CZK/m ²	396 CZK/m ²
Prague 6	109	395 CZK/m ²	431 CZK/m ²	134	205 CZK/m ²	501 CZK/m ²
Prague 7	73	280 CZK/m ²	374 CZK/m ²	64	230 CZK/m ²	406 CZK/m ²
Prague 8	123	259 CZK/m ²	298 CZK/m ²	78	218 CZK/m ²	364 CZK/m ²
Prague 9	139	283 CZK/m ²	380 CZK/m ²	45	169 CZK/m ²	367 CZK/m ²
Prague 10	205	220 CZK/m ²	445 CZK/m ²	101	180 CZK/m ²	382 CZK/m ²

Compared to the quite high prices of buildings, the yields from leases are not very interesting, which leads to little or almost no construction of new rental apartments. There are only very few exceptions thanks to the high equity of investors and the expectations of interesting yields in the future rather than in the present.

The negative impacts on rental housing and therefore on residential investment can also be caused by an improperly set up act on social housing. We already warned against this in the previous Trend Reports – it is therefore good that its current version was not adopted. However, it is necessary to tackle the issue of social housing with an act² as soon as possible. The act has to lead to a goal-directed and motivating support of people who objectively cannot afford to secure their housing in the market, but who are at the same time competent to housing. Housing cannot be sim-

Further rent movements will depend on the economic development of the Czech Republic, the situation of the labour market, and the level of income of households. In terms of demography, the number and composition of households are important. Recently, the number of one-person households with a pensioner or young single person has been increasing. The pressure on the prices of owned apartments can be mostly seen in Prague and large regional cities, primarily in areas with a higher percentage of university educated people. A further slight increase in apartment rents is expected, also because of the fact that it is no longer profitable for many small investors to purchase flats in order to rent them. Therefore, the supply of rental apartments in the capital could decline even further...

JIŘÍ PÁCAL

Central Europe Holding a.s.

² You can read more about social housing in the "Can the housing market fail?" chapter on page 45.

³ Analysis as of February 6, 2018.

THE DEVELOPMENT OF NEW FLATS

There was a turn in the field of residential development in 2017. After a long time, less flats were sold in the capital than in the previous year, and for the first time it was less than in regions.

The main reason for this was the slow authorization of new projects by authorities and the increase in the average price of flats, which resulted from this fact.

Year-on-year, the price has increased by almost 20 %¹ according to analyses performed jointly by Trigema, Skanska Reality and Central Group

PRAGUE

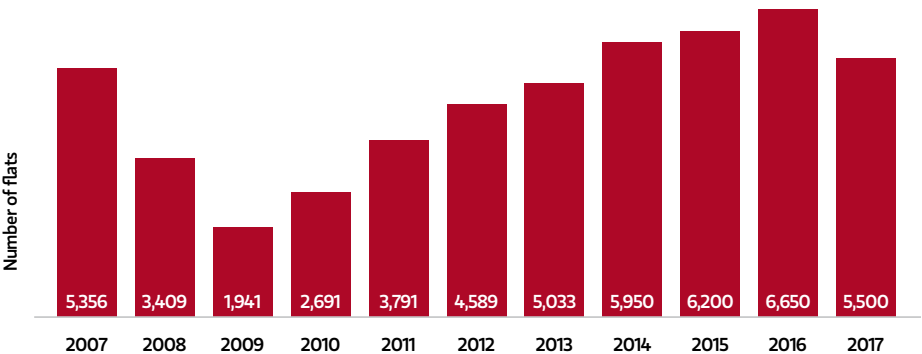
With regard to newly sold flats, last year confirmed the downward trend from the previous year. If the imaginary peak in sales can be dated back to 2016 when 6,650 new flats were sold on the Prague residential market, in the last 12 months (2017) a significant downturn was recorded – according to the study by Trigema, Skanska Reality and Central group; only 5,500 new flats were sold in the capital in the reference period.

and the public should have started in the spring of 2018 in order for the document to come into effect on January 1, 2023 at the latest. However, the current version of the Metropolitan Plan still does not fulfil the expectations of the professional public and investors. The Plan is unclear in many of its provisions, and according to expert opinions, it will not make the process of construction authorization easier and faster.

The demand also plays a role in the price increase. Relatively low levels of interest rate for mortgages around a convenient 2 percent



GRAPH The development of sales of new flats in Prague



Graph source:
Ekospol (2007 – 2010)
Ekospol (2011 – 2013)
Trigema, Skanska Reality, Ekospol (2014 – 2015)
Trigema, Skanska Reality, Central Group (2016 – 2017)

What is behind this decline? The main reason is on the supply side. Four years ago, there were almost 7,000 new flats offered by developers in the capital. At the end of last year, there was only half of this amount. Most developers say the problem is caused by the authorities, who either authorize projects too slowly or don't authorize them at all in some cases. This is also worsened by the unwillingness of politicians in most local governments to adopt quick corrective measures for the current state.

However, the uncertainty on the market is not only due to the slow actions of authorities, but also due to the fact that there is no binding document that could be applied to the future development of Prague. The new Metropolitan Plan, which should replace the current development plan from 1999, has been in creation since 2012. Public consultation of the Metropolitan Plan with urban districts, state administration

were determinative for the demand last year. It motivated many people to buy a new flat for both their own living as well as an investment with the intention to rent it. A relatively strong group of buyers for many development projects is represented by foreigners. These are citizens of Slovakia, Russia, Ukraine and other states of the former Soviet Union, but there are also increasing numbers of Vietnamese, Korean and Chinese people.

"For example, particularly in Prague, the situation around the development plan is very unsatisfactory. Real estate business is a long-term thing and clear long-term rules are very important for a successful development."

Martin Skalický, EDULIOS

¹ The results may differ in individual chapters due to different input data – see the "Mortgage market" chapter on page xx or the "Macroeconomic development" chapter on page 22.

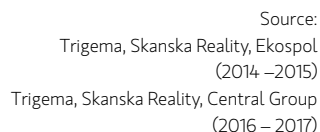
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Approximately 60 % of all new flats that are offered by developers are now at a price level over 80,000 CZK per m², but the percentage of flats offered for a price over 100,000 CZK per m² is 30 %.

Brno also reports a decline on the market. According to data provided by Tri kaya, 40% less flats were sold last year compared to the previous one. While in 2017 924 flats were sold, in the previous year it was around 1290 new flats. However, this decline is still not that significant. In 2015 954 flats were sold in Brno, and in 2014 it was 824 flats. The average price of sold flats was only slightly higher than 60,000 crowns per m² at the end of last year.

The situation is very different in most regions of the Czech Republic. A total of 6,100 new flats³ were sold in 2017. This means 600 more flats than in Prague. It wouldn't be surprising if we didn't take into

Age Group	Number of People
10-19	20
20-29	30
30-39	40
40-49	50
50-59	60
60-69	70
70-79	80
80-89	90
90-99	100



³ Study by Trigema that maps the whole residential market in the Czech Republic.

account the fact that in developed economies the big cities usually form the biggest part of the local residential living market. This is unfortunately not the case in the Czech Republic these days.

The unhealthy situation on the residential market in Prague also causes the interest in new residential properties to partly shift to the Central Bohemia region. At the end of 2017, 1,040 new flats were offered here. Another strong market with new residential properties is in the Southern Moravia region with 1,065 units at the same time, and the Pilsen region with almost 900 offered flats. There was a total of 5,200 new offered flats in the regions at the end of last year, which means 1,550 more flats than in Prague. For the whole last year, around 1,830 flats were sold in the Central Bohemia region, 1,230 in the Southern Moravia region, and almost 1,300 in the Pilsen region.

THE OFFER OF NEW FLATS IN THE CZECH REPUBLIC

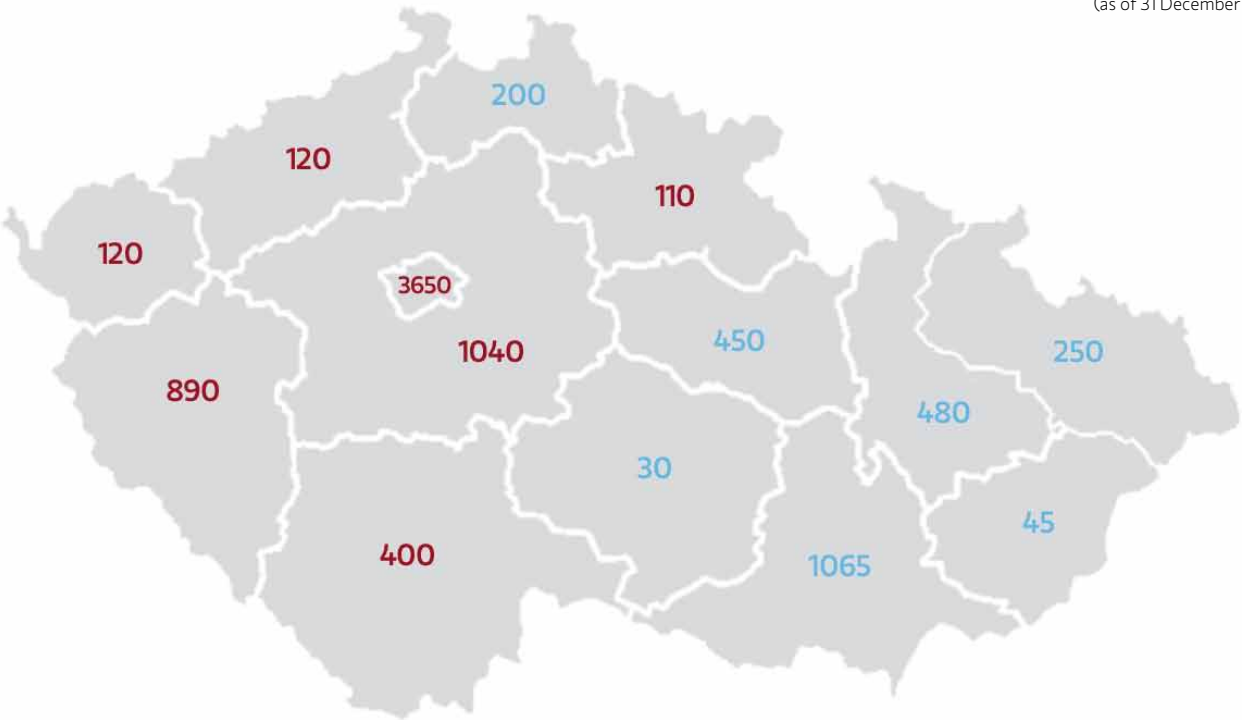
If the trend of a decline in the number of new sold flats in bigger cities such as Prague or Brno continues, it will negatively influence the business activity of developers and new options for living, as well as the future quality of life in that city. One of the questions is how both big cities will handle the everyday commuters. For example, the capacity of P+R car parks in the capital is only a small fragment of the number of people who commute to Prague . There are currently around 3 thousand parking spaces in P+R car parks, but according to the data published by the Czech Statistical Office, about 150 to 170 thousand people travel to Prague for work or shopping every day.

MARCEL SOURAL
Trigema

SCHEME The offer of new flats in the Czech Republic

Source: Trigema

5,200 available flats
(as of 31 December 2017)



ARE THE PRICES OF NEW APARTMENTS AT THEIR PEAK?

The prices of apartments in Prague have been continuously growing for the past few years – from 2011 to 2017, the prices of new apartments in Prague increased by almost 50%. On the other hand, the number of apartments on the market is gradually decreasing. Every year between 2011 and 2016, more apartments were sold on the market than in the previous year. This changed last year. Year-on-year, the number of sold apartments in developers' projects decreased by 17.3% to 5,500 apartments¹ according to shared statistics by Trigema, Skanska and Central Group; this number corresponds to a long-term average.

However, the demand is still higher than the supply of apartments in Prague. The prices of new apartments are therefore higher than in 2008 when the financial crisis hit the Czech real estate market. The economic depression between 2008 and 2009 and the development in the real estate market right before and after it showed that the supply is not only driven by the absolute price of an apartment as a whole, but also by the absolute price per square meter of an apartment. A large part is influenced by future expectations for the development of the real estate market in which investors speculate if it's better to buy an apartment immediately or to wait a few more years, and it is also influenced by future expectations for the development of the economy. Here it is mostly about interest rates for mortgages and about the absolute monthly mortgage instalment, which seems to be more important to a common client than the total price of an apartment.

The current high prices of apartments can be explained by the disproportion of the demand and supply, as well as the increase in real wages, low interest rates and decreasing savings rates. It is therefore necessary to observe the larger context² to analyse whether the prices in the real estate market are at their peak.

COMPARISON OF THE DEVELOPMENT IN THE CZECH REPUBLIC AND THE EUROPEAN UNION

The development of apartment prices in the Czech Republic depending on macroeconomic determinants (the interest-rate level, available income, the supply on the market and unemployment) is not different from trends in the whole European Union. The graph below shows the development of HPI (House Price Index) in the Czech Republic and EU, where Germany is depicted as a developed market.

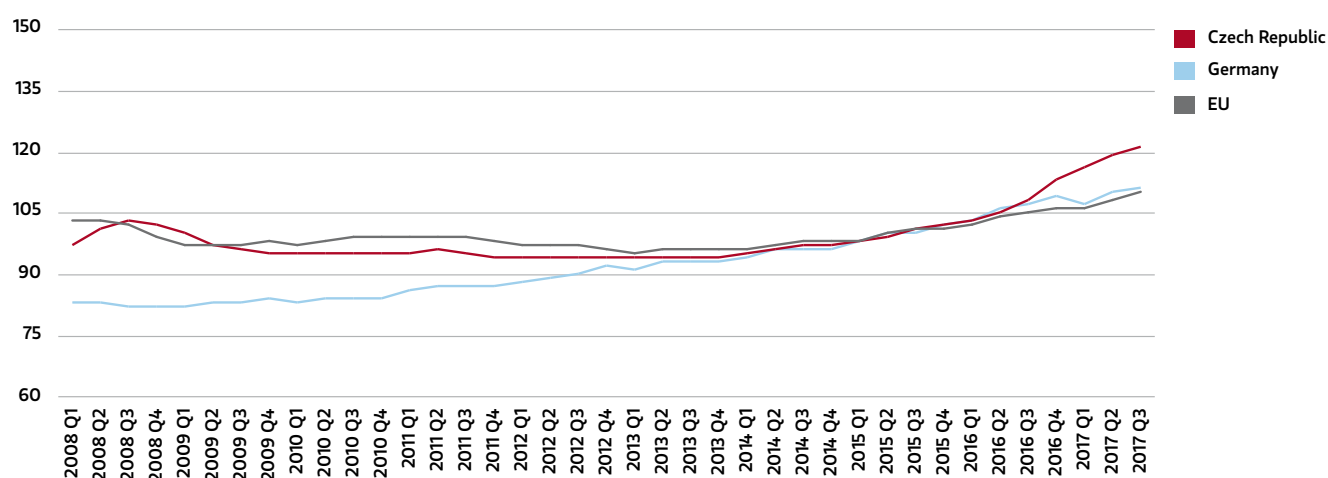
The high HPI in the whole EU in 2008 was mainly caused by high values of HPI in Spain, Ireland, Bulgaria and the Baltics. These countries were eventually hit by the crisis in the real estate market the most, and Spain, for example, has not reached the pre-crisis values of properties yet.

In the third quarter of 2017, the HPI in the Czech Republic reached a value of 121 while the value for the European Union is 110. But it is also necessary to take into account the increase in GDP, which was higher in the Czech Republic than the average in the European Union, as well as the unemployment here, which is below the average in EU. We should also pay attention to the fact that the Czech Republic is one of the converging countries for which a higher rate of economic growth and therefore a higher rate of the increase in property prices is expected than in Germany, for example.

The relation of the development of GDP and HPI in the Czech Republic and the European Union is almost the same. On the contrary to the European Union, we can see from the values that HPI growth was higher than for GDP growth in 2016 and 2017. However, these differences are not essentially divergent compared to the develop-

GRAPH 1 Development of HPI in the Czech Republic and the European Union

Source: Eurostat

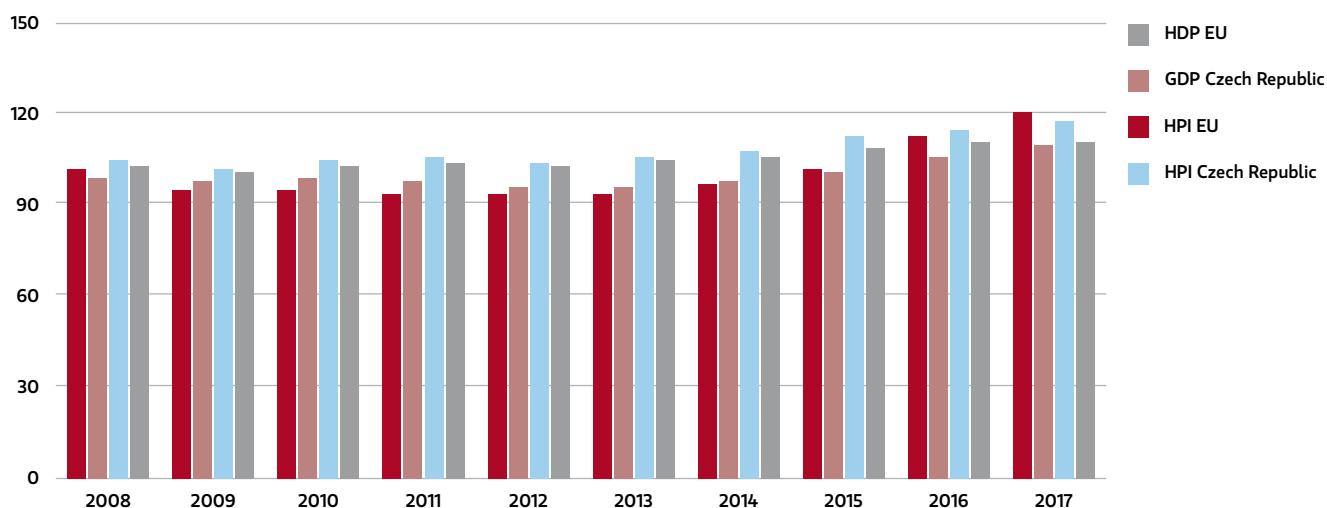


¹ A detailed analysis can be found in the next parts of chapter "Residential market".

² The information and data included in this document are a result of an analysis performed by the Institute of Strategic Investment of the Faculty of Finance and Accounting of University of Economics, Prague (hereinafter referred to as "ISTI"). The data and information are solely for use by ARTN. ISTI is not responsible or liable for the up-to-datedness, entirety, legality, timeliness or accuracy of the information, data and statements in this document. The data and information may have been gained from publicly available sources and/or provided by third parties. ISTI is not responsible or liable for any potential losses incurred from incorrect decisions, the publication of analysis results or any other actions performed on the basis of information published in the form of this analysis or any of its part.

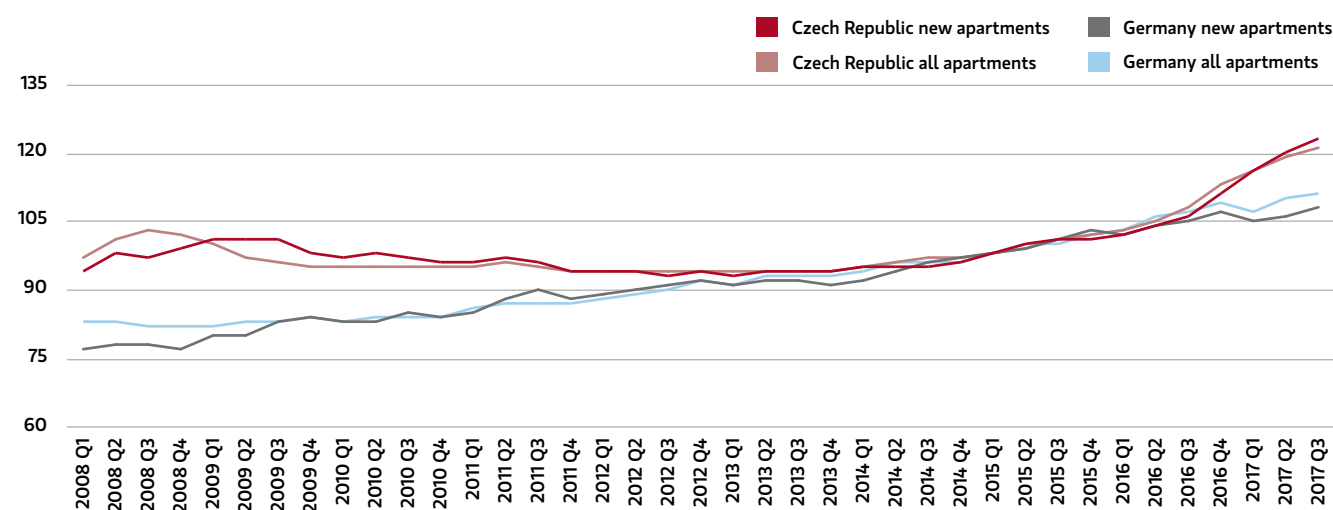
GRAPH 2 Development of HPI and GDP in the Czech Republic and the European Union

Source: Eurostat



GRAPH 3 Development of HPI for new apartments in the Czech Republic and Germany

Source: Eurostat



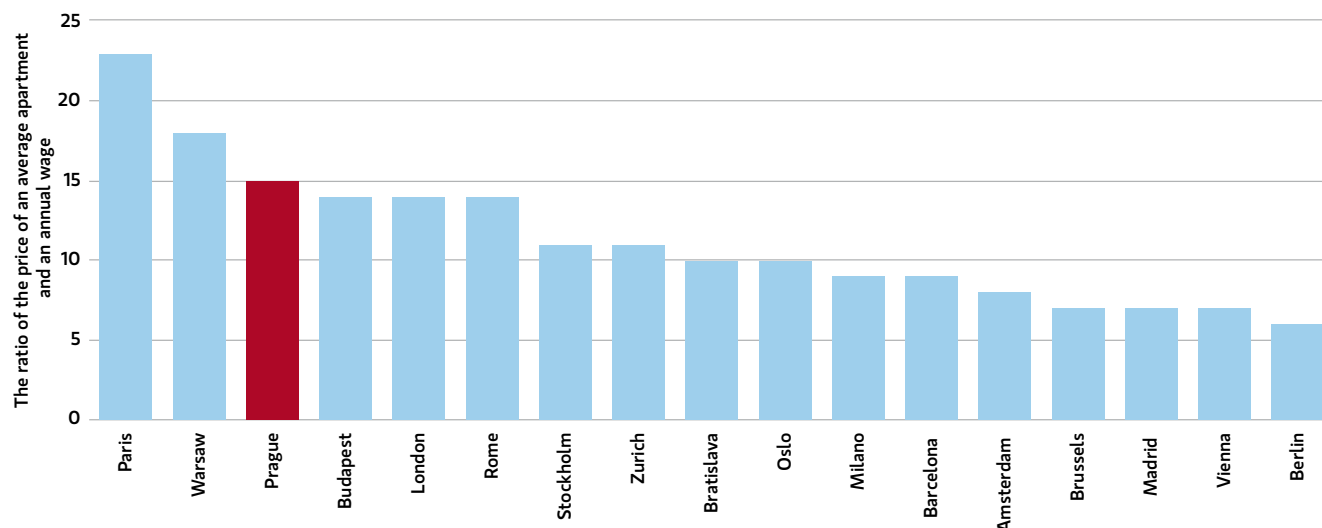
ment of the EU. We also have to consider the increase in real wages in the Czech Republic and decreasing saving rates. The saving rates decrease faster than in the whole European Union, which results in more funds available for purchases of more expensive and finer apartments. The decrease in the saving rates does not mean that Czechs save less, but with higher incomes and low inflation the citizens have higher available income. In other words, the savings depending on the development of wages are less elastic than con-

sumption. It must be noted as well that an apartment purchase is not consumption but rather a form of investment that should bring appreciation in the future.

The correlation coefficient between GDP and HPI for the European Union is 0.74, and it is 0.72 for the Czech Republic. Therefore, we cannot say that the development of apartment prices in the Czech Republic is higher than the development of apartment prices in the

GRAPH 4 The number of annual net wages in the given city to buy a 60 m² apartment (2012)

SOURCE: UBS Price and Earnings 2012



European Union. When we focus a bit more on the development of prices in new development in relation to the development of prices of all apartments in the Czech Republic, we cannot see any significant differences either. The German market was defined as a benchmark. It is clear from the graph that there is a consistent growth of apartment prices on the German market, and regarding growth, the market in the Czech Republic is recovering from the decline from the crisis.

HOW DIFFICULT IT IS TO PURCHASE AN APARTMENT

The residential market in the Czech Republic is dominated by Prague, where 60% of all transactions related to apartments take place. The prices of apartments in Prague are lower than the prices of apartments in big Western European cities, but the difference is getting smaller. While nominal prices in Prague are below the average of big European cities, relative prices measured according to average wages are among the highest. This comparison is shown in the following graph (4).

We can measure how difficult it is to purchase a new apartment using an indicator that is the ratio of an average mortgage instalment for the currently highest possible LTV to the average wage. This indicator is illustrated in the next graph. It is clear from the data that the development of the prices of apartments and interest rates has not changed the mortgage instalment. According to current legal regulations, it is now possible to take a mortgage of up to 80% of the value of the purchased property.

with the lowest prices were almost abandoned mostly due to the fact that the buyers can take a higher mortgage.

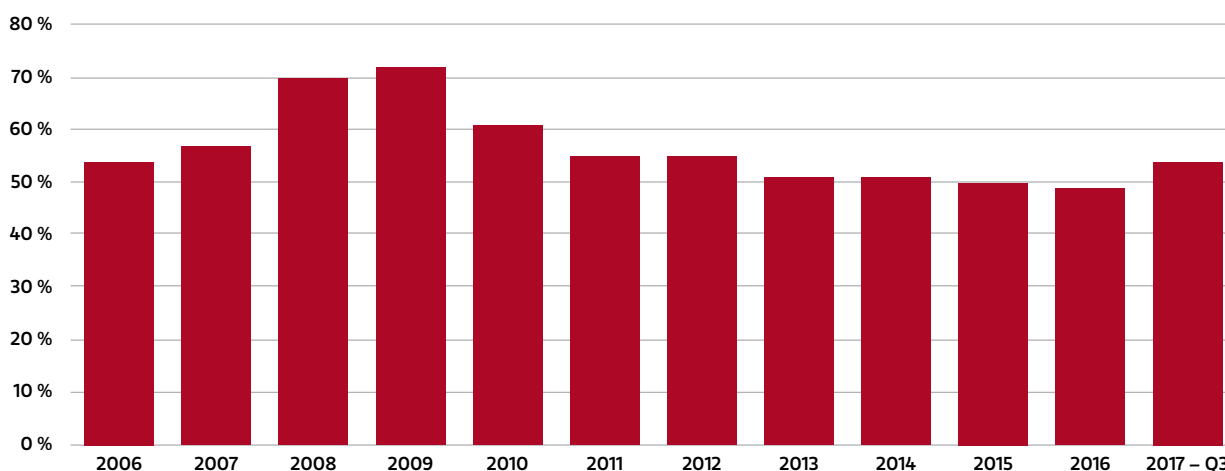
Therefore, it is not possible to claim that the price increase is without value justification, it is present in the higher standard of apartments. In 2009, 60% of apartments on the market were in the segment of low price or lowest price categories; in 2016, less than 30% of apartments were in these categories. The size of new apartments was also increasing by 2016. At the end of 2017, little correction was identifiable when smaller apartments started to be offered.

The graph shows the development of interest rates and average transaction prices per square meter of a new apartment in Prague. It is clear from the graph that both quantities were developing equally fast until 2014. Since 2014, we can see the disproportion when the prices of apartments have been constantly increasing. It is expected that within a period of increasing interest rates, the demand and prices of properties should decrease. However, the graph shows the increasing prices of apartments and increasing interest rates in the same period. In this period, the anomaly was (as described above) influenced by the future expectations of people who were convinced that the prices of apartments will increase because of the change to legal regulations with regard to VAT.

The prices of apartments really increased in this period and clients were willing to pay up to 70% of their average gross wage for a mortgage instalment. When the announced increase of VAT really

GRAPH 5 The encumbrance on the average gross wage in Prague by an average mortgage for the purchase of a new apartment

SOURCE: Deloitte price map, Hypoindex, Czech Statistical Office



The graph shows that the encumbrance on the average gross wage by a mortgage between 2010 and 2016 decreased even though the prices of apartments increased. This is not only due to low interest rates of mortgages but also because of low inflation, and mainly because of the increase in wages. However, compared to the market situation in 2008, the difference is very significant. It needs to be mentioned that the crisis in the Czech real estate market in 2008 was not only caused by the global crisis (the crisis only partly influenced the whole situation and weakened the demand), but the increase in demand, rapid construction and the subsequent decline were mainly driven by the information about VAT rate increase for apartments.

The increasing prices of apartments cannot be seen only as the increase in percentage per year, but also from the perspective of the development of the sold product and the changes to the structure on the demand side. Higher prices have also brought a higher standard of the apartments in offer and finer materials. The apartments

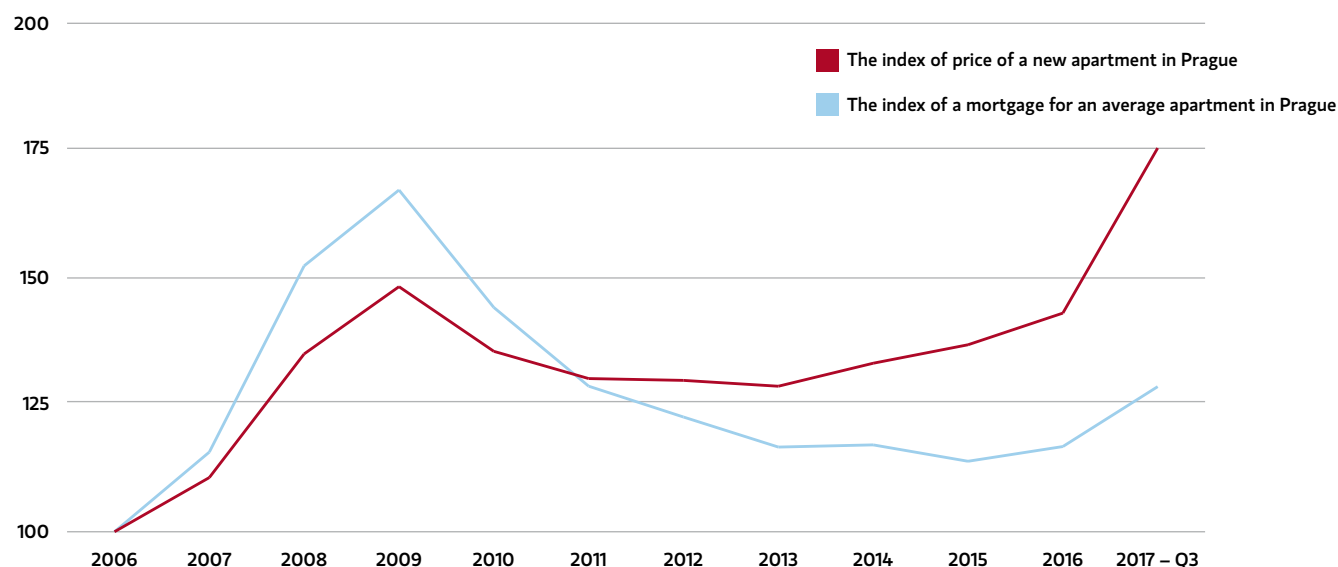
came, the difference of tax was largely absorbed at the expense of developers' profits. Today the market benefits from the expectations of a future increase in interest rates for mortgages, which will also relatively increase the prices of apartments.

HOW WILL THE SUPPLY OF APARTMENTS CHANGE?

The future development of the residential market will be largely influenced by supply. In 2016, over 7,000 new apartments were sold in Prague, while according to the Czech Statistical Office, only a few building permits were granted for construction compared to the number of apartments sold. In 2016, the number of apartments available on the market was lower than the annual demand for the first time in 15 years. In the coming years the supply on the market will play an important role, and it will significantly influence the prices of new apartments even though there is a decline in demand in 2017 when 5,500 apartments were sold.

Development of the price per square meter of an apartment and average mortgage instalment

Source: The calculation was based on data from Hypoindex, Czech Statistical Office, Crestyl, Skanska



The lack of apartments on the market is caused by low number of new permits for building and by the lack of space suitable for building new apartments (and it is not only about the lack of new land for building, but also about the possibilities to reconstruct Prague brownfields). A low supply of apartments next year may balance the influence of increasing interest rates for mortgages. In others, the market will become smaller – both supply and demand will be lower.

The Czech National Bank policy that pushes the interest rate growth makes mortgage instalments higher, making buying a new apartment more expensive; however, it is a logical macroeconomic step. The increase in mortgage rates may mean a slower growth of apartment prices and a slight decrease in the demand for new apartments. This decrease can be observed in the mortgage market. The mortgage volume granted in January 2018 (16.503 billion CZK) annually decreased by almost 6%. The comparison with December 2017 (20.138 billion CZK) is even more striking; the decrease here is about 18%, which corresponds to the decrease in demand in 2017 and 2016.

However, the growth of GDP in the Czech Republic is expected in the coming years, and therefore also increased wages that balance out the more expensive mortgages. The rents of apartments in Prague increase more than the prices of mortgages. Therefore, when apartments

are bought as an investment, the rents balance the potential increase in the prices of mortgages and motivate some tenants to buy their own housing.

If we take into consideration the average wage in Prague in 2017 (36,000 CZK) and the average apartment with 60 m², the following table shows the encumbrance of the average gross wage by mortgage for mortgages with various interest rates and for various prices per square meter.

The prices of new apartments in Prague have probably not reached their peak yet; however, they are getting closer and their rate of growth will probably decrease. The increasing tendency should remain, however, considering the correlation of prices with the GDP growth and the prediction of further but slower economic growth in the Czech Republic. The encumbrance of an average gross wage by mortgage is also important, and it is still lower than in 2008. The increasing mortgage rates due to the increase in rates by the Czech National Bank will slow down the growth rate even more.

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TABLE 1 The encumbrance by mortgage for various interest rates and property prices

Source: Our own calculation

The mortgage rate	The average price per square meter of a new apartment										
	70,000 Kč	75,000 Kč	80,000 Kč	85,000 Kč	90,000 Kč	95,000 Kč	100,000 Kč	105,000 Kč	110,000 Kč	115,000 Kč	120,000 Kč
1.50%	37%	40%	43%	45%	48%	51%	53%	56%	59%	61%	64%
2.00%	40%	42%	45%	48%	51%	54%	57%	59%	62%	65%	68%
2.50%	42%	45%	48%	51%	54%	57%	60%	63%	66%	69%	72%
3.00%	44%	47%	51%	54%	57%	60%	63%	66%	70%	73%	76%
3.50%	47%	50%	53%	57%	60%	63%	67%	70%	73%	77%	80%
4.00%	49%	53%	56%	60%	63%	67%	70%	74%	77%	81%	84%
4.50%	52%	56%	59%	63%	67%	70%	74%	78%	82%	85%	89%
5.00%	55%	58%	62%	66%	70%	74%	78%	82%	86%	90%	94%

WHO IS THE GOAL OF THE SOCIAL HOUSING ACT?

At the end of December last year, the Ministry for Regional Development of the Czech Republic certified a method for the identification of a housing market failure that should serve to identify the need for public investment aid in the field of social housing. With regard to the fact that an attempt to pass the Act on Social Housing by the Ministry of Labour and Social Affairs of the Czech Republic was not successful, this method could become one of the pillars for the preparation of a new act that would respect the current situation on the housing market better and target the households with a provable shortage of accommodation more carefully. The method was created in collaboration with the Institute of Sociology of the Czech Academy of Sciences and with the Faculty of Architecture of Czech Technical University in Prague.

This method should preferably serve municipalities as well as state authorities to distribute investment subsidies in the field of social housing, which shall comply with EU rules related to the operation of social housing as a service of general economic interest. Its aim is to secure an effective public intervention in the field of social housing that is not vulnerable to the competition on the housing market or other market distortions.

There may be many causes of market failures, the consequence of which is that many households cannot secure affordable housing that is suitable in terms of its size and quality standard, and not excluded spatially under market conditions. The method certified by the ministry therefore targets situations when it is not possible to let the market solve a shortage of accommodation of individual households, and neither local or regional authorities can solve it due to various reasons; the solution of their housing situation requires a substantial state intervention. The method consists of the following three parts:

1. General identification of a risk of market failure in the field of housing on the level of municipalities

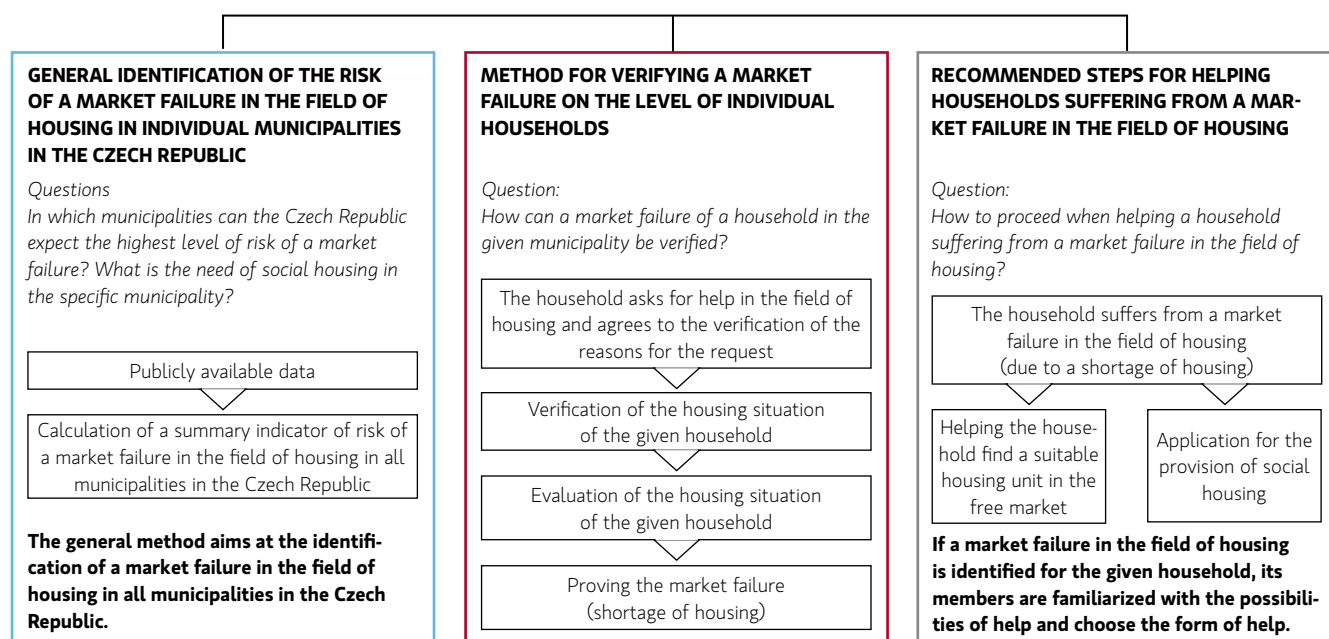
2. Identification of a risk of market failure in the field of housing on the level of individual households
3. Steps in helping households suffering due to the failure of the housing market (a shortage of housing)

A schematic overview of the individual parts of the method is depicted in Figure 1. The aim of general identification of the risk of market failure in the field of housing on the level of municipalities is to roughly map the extent of the failure in the housing market in all municipalities of the Czech Republic using publicly available data sources. This general identification then allows us to find out what level of risk of market failure the individual municipalities in the Czech Republic have, and to handle and compare the level of the need of public intervention in the field of social housing among municipalities.

The second part of this method consists of steps that help the municipalities identify the risk of market failure in field of housing on the level of individual households and to evaluate it. This investigation particularly examines whether the household can secure affordable housing that would be suitable with regard to its size and quality standard, and not excluded spatially under market conditions. The aim of this part of the method is to investigate specific households that requested help and gave their consent to verifying their housing situation.

The last part of the method focuses on the recommended steps in helping households suffering due to the failure of the housing market (a shortage of housing), which may be entitled to the provision of social housing. To sufficiently verify that each individual case is really a case of provable market failure, there are two options in the steps recommended for households in a shortage of housing: either help in the form of ensuring housing in the sector of market (private) rental housing, or in the form of putting

FIGURE 1 Method of the identification of the risk of a housing market failure



the household on a waiting list for the provision of social housing units. The aim of these steps is not only to give the households the option to choose about their future housing based on their own preferences, but also to not create unfair competition for market solutions of housing situations in the case of households for which there may already be suitable and prompt solutions to their shortage of housing on the market.

The first part of the method, i.e. the general identification of a market failure, provides the opportunity to obtain a first rough overview of the need of public interventions in the field of social housing in all municipalities in the Czech Republic on the basis of publicly available data. Four main risks were defined for this purpose:

- The risk of insufficient size of housing (overcrowded), i.e. the risk that households live in flats or other types of housing units that are not suitable for the size of the household due to their amount of m² or the number of rooms
- The risk of insufficient (low) housing quality, i.e. the risk that households live in flats or other types of housing units that do not meet the minimum housing quality standards, they live in temporary housing/accommodation, or they are even homeless
- The risk of housing in socially excluded areas
- The risk of not being able to afford housing, i.e. the risk that the income of the household is not sufficient to pay for the housing costs.

From the collection of publicly available data, the factors (indicators) that quantify the relevant risk best were chosen, and they are summarized in Table 1.

To compare the situation among municipalities, it is necessary to take into account that there is a large number of municipalities (according

to the Czech Statistical Office, 6,258 municipalities existed as of January 1, 2016) that significantly vary in size. When comparing, the occurrence of the observed phenomenon in the municipality in relation to the number of citizens in the municipality (or the number of housing units, households in the municipality) is commonly used. However, such a relative indicator does not seem suitable here, because for small municipalities the percentage of people living in low quality housing in relation to the whole number of citizens of the municipality could be really high. For this reason, the most suitable option for the quantification of risks of a market failure seems to be the combination of a relative and absolute number of occurrences of the given phenomenon in the municipality. For each factor a natural level of risk was set on the level of average relative representation of the given risk in the whole Czech Republic (for example, the average number of low quality housing units in the Czech Republic with regard to the total number of housing units in the Czech Republic).

The natural level of risk is considered to be common, and only such municipalities are further observed in which the level of risk exceeds this natural level. This way, large municipalities that have a larger number of people who may face a certain risk of market failure, but with regard to the higher number of citizens it is a small relative representation (i.e. the relative number is below the natural level), are excluded. The risk is then calculated as an absolute number (e.g. of low quality housing units) exceeding the natural level of the given factor (e.g. of these housing units) in the given municipality.

On the basis of the quantification of all risks, a weighted summary indicator of the risk of a market failure in the field of housing (MFH) was calculated for all municipalities in the Czech Republic. The wei-

=== **TABLE 1 Overview of publicly available data sources for the general identification of the risk of market failure in the field housing in municipalities in the Czech Republic**

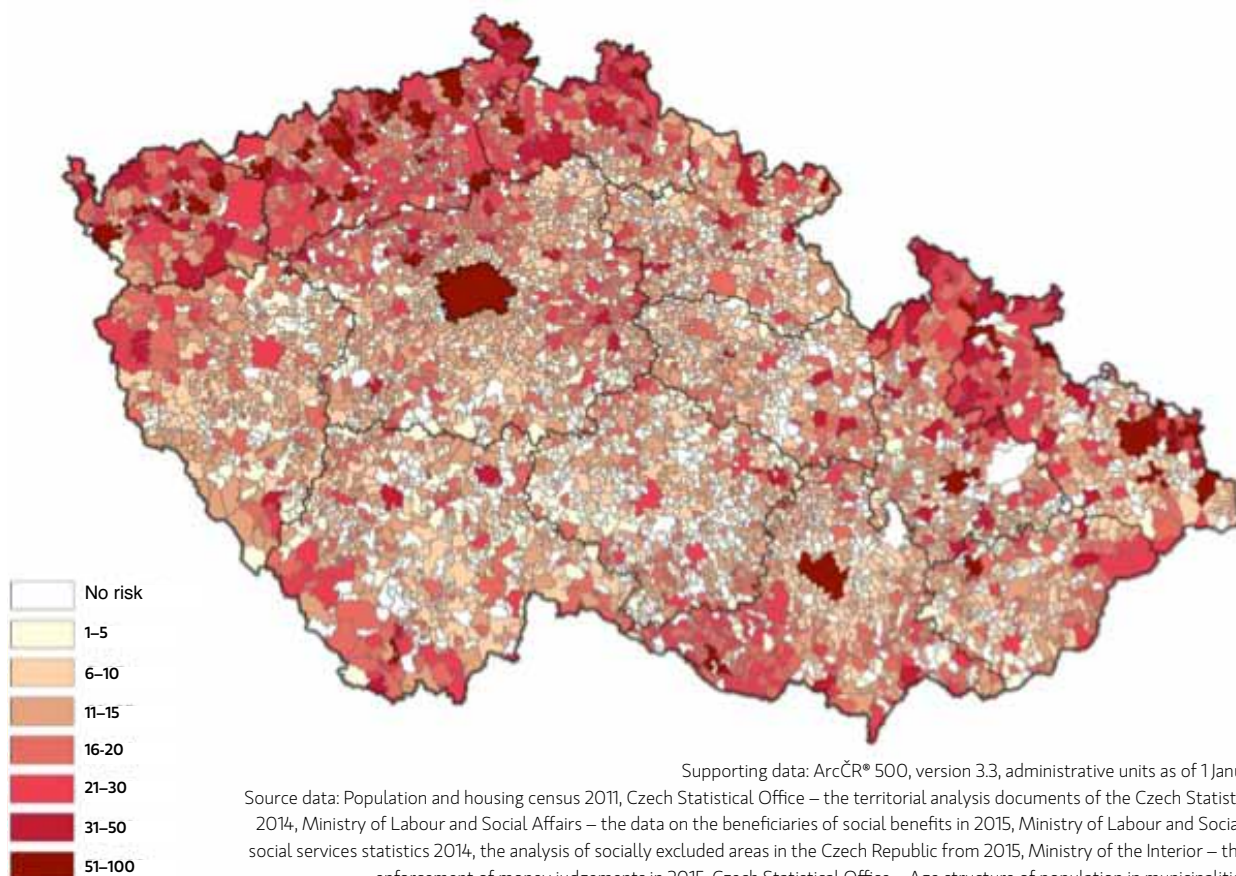
Factors	Data sources
<i>The risk of insufficient size of housing:</i> The number of overcrowded housing units	Population and housing census
<i>The risk of insufficient quality of housing:</i> The number of low quality housing units	Population and housing census
The number of people living in temporary forms of housing – mobile (movable) houses, emergency accommodation, shelters, accommodation facilities (families), homeless people (according to population and housing census)	Population and housing census
The capacity of temporary forms of housing – emergency shelters, halfway houses, night shelters (according to data of the Ministry of Labour and Social Affairs)	Ministry of Labour and Social Affairs statistics
<i>The risk of housing in socially excluded areas:</i> The number of people living in socially excluded areas	Analysis of socially excluded areas in the Czech Republic
<i>The risk of housing in socially excluded areas:</i> The number of beneficiaries of housing benefits	Ministry of Labour and Social Affairs data on the beneficiaries of social benefits
The number of beneficiaries of housing supplement living in lodging houses	
<i>Supplementary risk factors that can deepen the inaccessibility of housing on the free market (counted only if previous risks exist):</i> The number of unemployed people	Czech Statistical Office – the territorial analysis documents of the Czech Statistical Office
The number of enforcements of money judgements	Ministry of the Interior data – The number of enforcements of money judgements for 1,000 citizens at district courts
The percentage of private rental housing in the whole housing capacity	Population and housing census
<i>The specific needs of the elderly:</i> Age structure of population	Czech Statistical Office – Age structure of population in municipalities
The number of beneficiaries of housing benefits for 65-year-old or older lessees who live alone	Ministry of Labour and Social Affairs data on the beneficiaries of social benefits

ghts take into consideration the information value of the given factor, of the up-to-datedness of the data and of the mutual interconnectedness of data. A weighted sum of the categorized values of the individual risks in the given municipality is calculated first. This weighted sum is then related to the maximum score possible with the highest level of risk of all factors (the sum of the multiplication of maximum values of the individual risks by the weights of factors, i.e. to 20 points) and multiplied by 100. Cartogram 1 depicts the map of municipalities in the Czech Republic based on the illustration calculation of MFH in 2015.

authorized employee of the municipality with the head of the household that asked the municipality for help, and that shall take place in the flat/lodging house/space where the members of the household live; with homeless people, this shall take place at the local municipal office. Filling out the questionnaire takes approximately 45 minutes.

A suitable phrasing of questions in the questionnaire was tested during the pilot research with 100 households that potentially suffered from a market failure in the field of housing in 10 chosen municipa-

CARTOGRAM 1 Summary indicator of the risk of a market failure in the field of housing (MFH) in 2015



The second part of the method offers a comprehensive set of steps for the identification of a failure in housing market for a specific household. The general identification of the risk of a market failure on the level of a municipality is not capable of noticing the individual cases of failures in municipalities that belong to municipalities with minimum risk of market failure in general. A household that feels it cannot secure affordable housing that is suitable in terms of its size and quality standard, and not excluded specially under market conditions, and contacts the municipality for this reason, is therefore subject to verification of the housing situation performed by an authorized employee of the municipality.

The main aim of this verification is to determine the situation of the household with regard to its finance, property and housing needs, and the inspection of the quality of current housing. The method also includes instructions to verify the housing situation of the household in the form of a standardized questionnaire and how it should be evaluated, and the identification of the household suffering from a market failure in the field of housing (a shortage of housing). The questionnaire is filled out during an interview conducted by the

lities within the Czech Republic, and the understandability and suitability of the questions were also consulted with the employees at these municipalities. The inspection of the quality and suitability of housing, which is a part of the questionnaire, is a unique tool in the Czech Republic that was developed in cooperation with the Faculty of Architecture of the Czech Technical University in Prague; authorized employees of municipalities, as educated laypeople, can use it to find out the basic parameters of housing quality and evaluate whether the housing unit meets the minimum standards of housing quality.

The aim of the first stage of the verification is to identify households that have sufficient income to secure housing in the free market themselves, i.e. they can afford housing and cannot be considered as people suffering from a market failure in the field of housing. If there is a provable problem with housing accessibility of these households (e.g. the overuse of housing of the elderly or specific housing needs due to health restrictions), and the subject of public interest is to help such households; these households may be familiarized with other aid schemes that are not specified in this method. Households

that cannot financially afford housing and the situation of its members does not allow them to increase their income are further verified in the matter of housing type, suitability and quality, because the fact that the household has low income itself does not automatically imply that there is a market failure in the field of housing.

The verification of the quality of the housing unit always takes place in the housing unit or space where the household mostly lives. With regard to the fact that part of the questionnaire may be subject to goal-directed actions, i.e. that households intentionally damage the housing unit to prove there is a market failure, and it is also necessary to differentiate the individual responsibility of the user towards the housing unit maintenance, it is essential to educate the authorized employees of the municipality performing the verification of the household's housing situation in the responsibilities of the user towards maintenance of the housing unit (knowledge of Government order No 308/2015 Coll.), as well as having a look at documents such as the lease agreement and the handover report, or interviewing the owner of the real estate or people living in the neighbourhood. When verifying the quality of the housing unit, it is necessary to take into account that the behaviour of both the lessor and the lessee / housing unit user influences the state of the housing unit. Both parties have different possibilities and powers in this relationship, and those are further specified in the lease agreement and are generally defined in the civil code (Act No 89/2012 Coll.).

The last evaluation is an assessment of overcrowding, which is performed using an evaluation of the amount of m² in the housing unit

in relation to the number of people living there (those registered in the housing unit), and subsequently also according to the number of rooms and the number of people living there (those registered in the housing unit). The housing unit is overcrowded if too many people live in a housing unit with a certain amount of m² (see Table 2 – grey fields). In the case that the housing unit meets the minimum amount of m² required (pink fields) and the number of people, the number of rooms is checked. If the number of rooms is not sufficient (grey fields), the housing unit is also defined as overcrowded (see Table 3). If the housing unit was identified as overcrowded, i.e. it is too small with regard to the given household, the household is identified as a household suffering from market failure (a shortage of housing). Figure 2 summarizes all the steps in the verification of a market failure on the level of households.

The method for identifying a market failure on the level of individual households brings comprehensive instructions for municipalities to verify the housing situation of a household suffering from a shortage of housing due to a failure of the market in the field of housing. In the Czech Republic, it is a first proposal of the steps to verify a market failure on the level of households, i.e. the identification of households suffering from a market failure in the field of housing.

The main innovative benefit of this method lies particularly in the field of housing quality verification. It was created in cooperation with members of the Faculty of Architecture of the Czech Technical University in Prague, who also developed the recommended quali-

=== **TABLE 2 Method for calculating whether the housing unit is overcrowded**

The amount of m ²	Number of persons in the flat: 1	Number of persons in the flat: 2	Number of persons in the flat: 3	Number of persons in the flat: 4	Number of persons in the flat: 5–6	Number of persons in the flat: 7–8	Number of persons in the flat: 9–12	Number of persons in the flat: 13+
< 37,9 m ²	standard	minimum standard	minimum standard	overcrowded	overcrowded	overcrowded	overcrowded	overcrowded
38–51,9 m ²	standard	standard	minimum standard	minimum standard	overcrowded	overcrowded	overcrowded	overcrowded
52–67,9 m ²	above-standard	standard	standard	minimum standard	minimum standard	overcrowded	overcrowded	overcrowded
68–81,9 m ²	above-standard	above-standard	standard	standard	minimum standard	minimum standard	overcrowded	overcrowded
82–95,9 m ²	above-standard	above-standard	above-standard	standard	standard	minimum standard	minimum standard	overcrowded

=== **TABLE 3 Method for calculating whether the housing unit is overcrowded according to the number of rooms in the housing unit if it meets the minimum standard with regard to m²**

The amount of m ²	Number of persons in the flat: 1	Number of persons in the flat: 2	Number of persons in the flat: 3	Number of persons in the flat: 4	Number of persons in the flat: 5–6	Number of persons in the flat: 7–8	Number of persons in the flat: 9–12	Number of persons in the flat: 13+
1	standard	standard	minimum standard	overcrowded	overcrowded	overcrowded	overcrowded	overcrowded
2	standard	standard	standard	minimum standard	overcrowded	overcrowded	overcrowded	overcrowded
3	above-standard	standard	standard	standard	minimum standard	overcrowded	overcrowded	overcrowded
4	above-standard	above-	above-standard	standard	standard	minimum standard	overcrowded	overcrowded
5	above-standard	above-standard	above-standard	above-standard	standard	standard	minimum standard	overcrowded

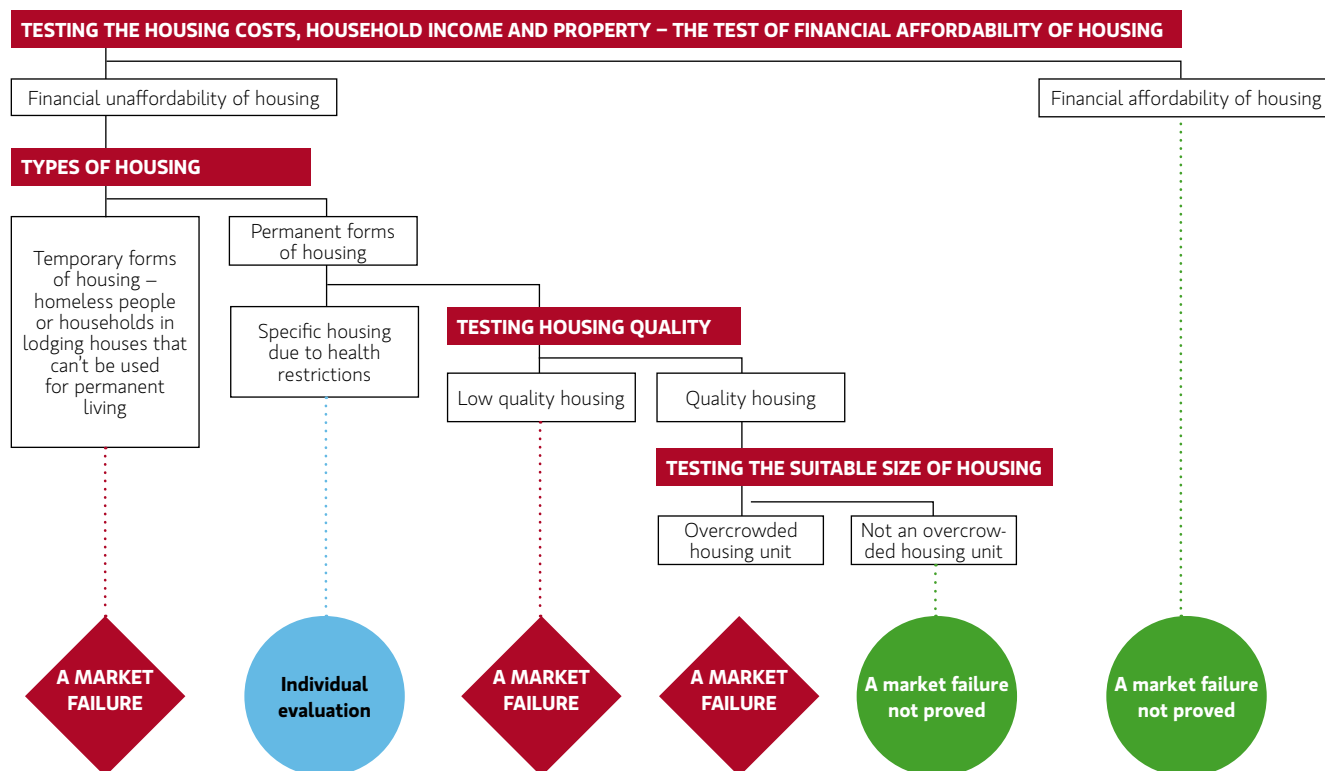
tative and spatial characteristics of social living for the purposes of another method used by the Ministry of Labour and Social Affairs. The cooperation with the Faculty of Architecture of the Czech Technical University in Prague thus ensures the consistency and mutual

interconnection of the individual procedures of both related methods focused on the field of social living.

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FIGURE 2 The method of the verification of a market failure on the level of a household



LUXURY REAL ESTATE ON THE CZECH MARKET

The market with luxury real estate in the Czech Republic is strongly entrenched; however, its isolation and the discreetness of ongoing transactions leave space for many questions. There is a very limited number of highly luxurious buildings in our country. Most of them are concentrated in the historic centre of Prague and several areas in the broader centre of the capital. The purchase price reaches 200 thousand crowns per m², and with exceptional properties it can even reach 300 thousand per m². The competition for luxury Czech real estate is not on the market here, but it is the real estate of equal standard in other big cities around the world.

The top market segment has many faces. From historic buildings with unique histories, to new exceptional projects designed by leading architects. But they all have one thing in common: emphasis on the highest quality in all aspects. Location, space, equipment and services: all of these things must offer the best option available.

NO COMPROMISES REGARDING LOCATION

A luxury location needs to provide clients with an extraordinary experience. A perfect property has a view of Prague Castle and the Vltava River, as well as greenery. The history of the place is also of significant value. If the place is famous thanks to an eminent personality or historical event, its attractiveness increases.

Some of the most prestigious locations include Malá Strana, Old Town, Josefov, Nerudova or Ke Hradu streets and other familiar areas. Outside the historic centre, Bubeneč, parts of Vinohrady, Janáčkovo nábřeží and recently also the adjacent areas of the broader centre can be mentioned. For some clients, houses on the edge or in the vicinity of Prague are attractive.

SPACE AND MAXIMUM COMFORT

Another essential quality right after location is space. While the room layout differs with the taste of an individual client, it is common to place emphasis on the generosity of the solution. In the most valuable properties, a two-room flat on 250 m² fully adjusted to the lifestyle of a couple without children is no exception. The individual room layout can then fully reflect the owner's lifestyle.

FINE TAILOR-MADE EQUIPMENT

The quality and nobility need to pervade the whole interior as well as the exterior of the building. Not only lavish palaces are popular in the Czech environment. Attention is paid to creative new projects or tastefully reconstructed burgher and historic houses. While the façade of the building may intentionally look restrained, the interior should attract one's attention from the first sight with the best equipment, and it should transform everyday living into an exceptional experience. The trends are fine natural materials such as stone, wood, glass or aluminium. Materials from all over the world find their way to Prague, and it is no exception that architects work on the interior design project for over a year. The aim is to achieve the best in all aspects.

From the developer's point of view, the best option is to achieve perfection in the exterior of the house and common spaces. In some cases, it is convenient to leave the individual units unfinished as shell&core or to complete them according to the requirements of a specific client. It is not possible to create an interior that will be suitable for a family with children, for clients who only use it for seasonal living, or for a diplomat who is used to regularly host social events.

The flats also become more attractive with underground parking spaces and many developers therefore adjust historical buildings to this need. On the other hand, a smart home can be an overvalued aspect. Particularly men appreciate smart gadgets. However, for a considerable number of clients this is not a priority, or they consider it to be superfluous because they have their own staff to ensure their comfort.

SERVICES AND PRIVACY

Top-notch services are also necessary qualities. The requirements are diverse, many properties also offer premises for staff. Another important service in the building is a concierge who fulfils all client's wishes, including the complete care of a vehicle fleet.

While the number of luxury units is not increasing very much, one of the most valuable qualities is becoming more and more endangered – privacy. It is not enough when privacy is protected by the property itself, it also has to be protected by all people who take part in the transactions or in the property's maintenance. Protection against voyeurs as well as individual requirements for security are always legitimate. Video surveillance and a reception that ensures an unauthorized person cannot access the property are a must.

HIGH DEMANDS ON REAL ESTATE BROKERS

The task of a successful real estate broker is primarily the successful completion of the transaction and mutual satisfaction. It is essential to develop and maintain exceptional trust because the intended trade is quite often in the range of tens of millions. It is also true that as the properties in offer are exceptional, so are their owners and buyers. Excellent knowledge of the market connected with great legal awareness and diplomatic skills are the real estate broker's essential competence. The position is frequently even more difficult because both parties can negotiate through intermediaries.

CLIENTS AND THE MARKET


The price, as well as the real estate in offer, varies. While for the medium and premium segment the price maps are quite reliable, luxury defends itself against following the tables quite well. The typical purchase price reaches 200 thousand crowns per m², and with exceptional buildings it can even reach 300 thousand per m². The only solid criterion is the opinion of the seller and the buyer.

Buyers' motivations and interests also vary. Many of them see the purchase as an investment opportunity, a way to deposit their disposable money. And for many of them, nevertheless, the purchase is an addition to their lifestyle, a wish that comes true. The whole process of purchase is also influenced by the current situation of potential buyers, particularly the pressure on the speed of the conclusion of transaction.

The awareness of the market and prices depends on the experience of brokers' teams. Public offer is still very limited and exceptional properties look for their buyers through personal ties and recommendations. To bring dozens of interested people to a luxurious house or flat may mean it falls to a much wider lower class – the premium segment.

This is the reason why the unprofessional public frequently confuses these two segments. The competition for luxury Czech real estate is not in the market here, but it is the real estate of equal standard in other big cities around the world. Any comparisons with the rest of the local market may end up with false conclusions.

DENISA VIŠŇOVSKÁ
LEXXUS Group



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