PLANNING AND MONITORING OF URBAN DEVELOPMENT: THE ROLE OF THE HOUSING PRICE INDEX

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ABSTRACT: *In this paper the real estate market in Slovenia and selected Slovenian city municipalities is analyzed with the goal of establishing whether or not it is possible to use the Housing Price Index as an indicator of urban development. The analysis shows that the real estate market in the Slovenian city municipalities has in recent decades been subject to a number of changes with a long-term effect. The analysis further proves that under certain conditions the Housing Price Index can serve as one of the indicators policy makers could use in planning and monitoring of urban development.*

Keywords: *city municipalities, Housing Price Index, post-socialism, real estate market, Slovenia, urban development*

JEL Classification: R31

1. INTRODUCTION

The Housing Price Index is basically designed to monitor trends in housing prices. Based on the positive growth in housing prices we can conclude that the demand for housing exceeds the supply, and that the area under observation has the potential for growth in the present and also in the future, as far as the latter provides a sufficient supply of housing units. This function of the Housing Price Index becomes particularly articulated in situations where purchasing a housing unit is the only real option for the solution of the housing problem in a particular area.

Since we can assume that the real estate market is more vibrant in circumstances where the area prospers, or at least has the possibility to prosper in the future, this index can also be proposed as of the key indicators of current and future development, and can be used when designing appropriate development policies.

The main objective of this paper is to analyse the real estate market in Slovenia and selected Slovenian city municipalities in order to establish the applicability of the Housing Price Index as an indicator of urban development. The trends in housing prices are analysed in a broader context, taking into account many factors that co-shape the housing prices.

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In this way the information on the trend of housing prices in Slovenia and selected Slovenian city municipalities is as comprehensive as possible.

Apart from the introduction, the paper consists of four sections. Section 2 explains the development of the Slovenian real estate market in the last few decades. It is a period marked by pronounced fluctuations in housing supply and important changes in the housing ownership structure. Section 3 describes the methodology and data used in the analysis of the real estate market. Section 4 presents and discusses the results of the real estate market analysis in Slovenia as a whole and in the selected Slovenian city municipalities. For Slovenia as a whole, prices of single-family houses and prices of housing units in apartment buildings are analysed for the period from 1 January 2007 to 30 June 2012. For the selected Slovenian city municipalities, the analysis is made for housing units in apartment buildings, which are the dominant type of housing in the Slovenian (post-socialist) cities. The final section summarizes the main findings and discusses implications that these have for policy-making.

2. SLOVENIAN REAL ESTATE MARKET IN THE HISTORICAL PERSPECTIVE

2.1. The Ownership Structure

Change in the political system 25 years ago instigated a number of changes in the Slovenian real estate market, which - due to the absence of effective housing policies - are affecting the real estate market even today. Besides the high rate of single-family houses constructed for own use in the time of Yugoslav socialism, changes mainly occurred in apartment buildings, which represent a significant share of the housing stock in Slovenian post-socialist cities. Until 1991 the latter type of housing was mostly common or public property for rent, and did not generate particularly high costs for users. Prior to 1991, the social housing stock represented approximately 33 percent of the total housing stock in Slovenia. Tenants normally paid only symbolic rents, which did not even cover the maintenance costs (Stanovnik, 1994). Due to privatisation of this housing between 1991 and 1993, approximately 100,000 of these rental housing units were »transformed« into owner-occupied housing through a sale to the tenants at a substantial discount (Stanovnik, 1994). Since the location of this housing was not taken into account as a criterion in setting the price, some housing in elite locations (e. g. in the centre of Ljubljana) was sold at prices that reached only 10-15 percent of the market value (Stanovnik, 1994). Privatisation with such a large discount was also carried out in other Central and Eastern European countries (Stanovnik, 1994). In neighbouring Hungary, for example, housing units were sold to tenants at 15 percent market value, with a possibility for an additional 40 percent discount (Kovács & Hervert, 2011), which is quite identical to the situation in Slovenia.

The privatisation led to the transformation of the housing stock ownership structure in the cities, but it was geographically not evenly distributed. During the mass privatisation, purchases of the housing units occurred mostly in those municipalities where housing

was more attractive for the market and where residents had higher and more stable incomes (Stanovnik, 1994). Although there were also those to whom the real (market) maintenance costs represented an excessive burden among the new housing owners, these new owners are certainly the big winners of the transition, since they gained potential profit of 80 to 90 percent of the housing value. In later years, this profit further increased due to the growth of the housing prices. From the findings of Stanovnik (1994) it can be deduced that after the privatisation was completed, market- and probably quality of living-inferior housing, which was used by economically weaker tenants without gaining any potential profit, stayed in public ownership.

In contrast to the cities, the ownership structure of housing in other areas of Slovenia did not change significantly in the transition period. In other words: the transition itself did not significantly impact this part of the housing stock. Single-family houses were in most cases built individually: it was the individual investor who, along with family members, has been using the house after completion of construction. According to the available statistics (SORS, 2015), the number of housing whose investors are individuals remained rather constant in the period before and after the change of the political and social order. Therefore, for a significant number of the population, i.e. the vast majority of non-urban population, living circumstances have not changed with the transition. Since this housing was in private ownership before the transition, their owners did not gain any potential profits due to the difference between the purchase and the market price, but only potential profits due to the increase in real estate prices. Potential profits from the sale could have been expected for at least three reasons. Firstly, because of the housing stock privatisation, housing supply was passed from the state to the individuals. Secondly, because in parallel with the privatisation of housing stock, construction and public property housing supply diminished, and thus the total number of available new housing units was reduced. And thirdly, because the individual constructions or single-family houses are in line with the new values of society and new trends, which set individualism before the common good.

2.2. New Housing Construction Characteristics

New and used housing is sold (and rented) on the real estate market.

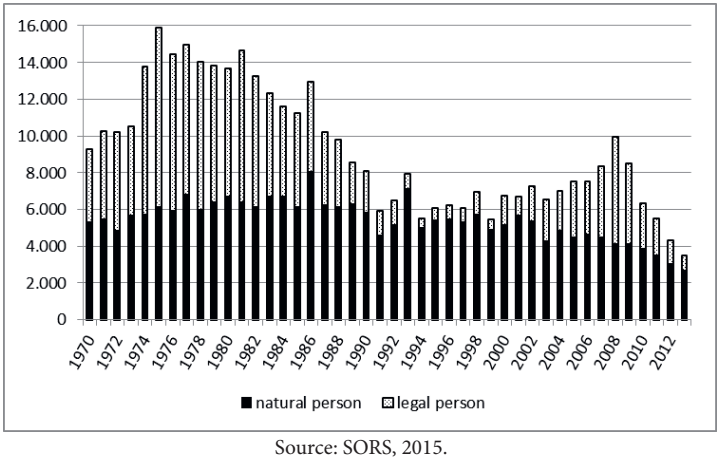
New constructions include all housing, which will be passed to the use of first users after its completion, regardless if the housing was completed just before the start of use or a few years earlier. Multiannual delay can occur when the investor puts housing that is not interesting for the potential buyers on the market, but does not respond to poor or non-existent demand by lowering the prices.

Used housing on the real estate market includes all housing which will after some time of use be passed to a new user. This housing is generally older, although situations, where due to the rapid resale the used housing was built later than the housing that has a status of a new construction on the market, are known.

Simplified definitions that make the categorisation of housing easier also exist. For example, GURS (2013) considers all housing that was built in the last three years prior to the date of sale as new constructions.

Regardless of the definition, it is considered that new constructions supply on the real estate market depends on the number of housing completed in a shorter period prior to the date of purchase, while the completion period of existing housing is longer and spans through more decades. Figure 1 shows the number of completed housing units in Slovenia in the period from 1970 to 2013 according to the investor. Completed housing where the investor is an individual (natural person) generally consists of single-family houses, which were constructed for own use. Legal entities (legal persons) on the other hand invest both in single-family houses and in apartment buildings, which are intended for the market. In the latter case, we witness a change: in the socialist period, legal entities mainly invested in apartment building. After the change of the political and social order, much more of their investment has been focused on the construction of single-family houses because of their search of competitive advantages on the real estate market.

Figure 1: *Number of completed housing units according to the investor*



Source: SORS, 2015.

In general, construction of housing for the market with legal entities as investors has experienced a few ups and downs in recent decades. From 1970 onwards there were two prominent building cycles in which a larger number of housing intended for the market was built. The larger cycle took place in the time of socialism, before the transition, and the smaller one much later, a decade after the transition begun. In the time of socialism a significant number of housing was completed every year, most of it in the years from 1974 on. Mass construction of such housing began to decline in the second half of the eighties of the 20th century and has virtually stopped with political and social changes at the beginning of the nineties. In the decade that followed, the number of housing constructions financed by the legal entities is so small that it does not play any significant role for the real estate market in Slovenia. Revival of the housing construction for the

market began in 2002, soon experienced the peak and then dropped to the level at which this type of construction persisted for a decade before the rise. In relation to the structure of the housing for the market, the second construction cycle was slightly different than the first one, because – as already stated - the legal investors which build housing for the market adapted to the new market conditions by increasing construction of individual single-family houses.

This change in the structure of housing constructed for the market probably also affected a slight decline in those housing constructions where investors are individuals. The new single-family houses supply slightly slowed down the construction for own use or started to successfully replace it. Regardless of this perceived trend of decline in construction for own use, it can be argued that construction of housing by individuals was rather stable over the decades until the last economic crisis from 2008 onwards, when together with the total number of completed housing for the market the number of housing built for own use also declined. After the onset of the crisis financial capacities of the population apparently became too small both for purchasing as well as for housing construction for own use. The number of completed housing in the last two years of the analysed period suggests this was the biggest crisis in the Slovenian housing supply in the past few decades.

2.3. Current Real Estate Market Supply and Demand Imbalance

Insufficient and inappropriate housing supply coincides with insufficient housing demand. After the transition, the conditions for acquiring appropriate housing in Slovenia have changed significantly. At the end of mass privatisation, the majority of the population with housing problem was forced to solve it with construction for own use (which is not an appropriate or feasible solution for all future housing users) or by purchasing housing at a market price. As Cirman (2006) noted, people are forced to acquire owner-occupied housing because they do not have appropriate available rental alternatives. Due to insufficient supply, prices of available housing, both of new constructions and existing housing, are too high for average purchasers. In order for Slovenia to meet the needs for housing, between 11,000 and 16,000 housing should be completed annually (Banovec, 2005), which is significantly above the actual number of completed housing.

Despite the housing prices being significantly above the purchasing power of an average housing purchaser, purchases still occur. One share of these purchases can be explained by appropriate purchasing power of a certain part of the population, another by excessive credit loads, and yet another large one by intergenerational help. As a response to the fierce conditions in the real estate market, intergenerational family financial transfers (transfers from parents to children) for housing purchases have increased after 1991 (Cirman, 2008). It is not irrelevant that a significant share of the generation that was capable of providing intergenerational help in the last two decades purchased their own housing under favourable conditions at the time of mass privatisation and was therefore not been financially incapacitated by this purchase. It can be expected that so created surplus of capital in a certain part of the Slovenian population will disappear over time, so a partial decline of such purchases in the future seems realistic.

Besides the intergenerational help in form of financial help with the housing purchase, two or more generations residing together in the same housing unit is also an important buffer of a non-functional real estate market. Young people, if they have this option, due to their inability to enter the real estate market, remain living at home - they delay moving out for a certain period of time or even continue living with their parents permanently. In case they form their own family, the extended stay may continue at the parents' of one of the partners. This alternative allows young people to solve their housing problem completely independent of the real estate market. Extended stay of individuals with their parents will normally not be affected by the size of the apartment, while the family stay with the parents of one of the partners is more or less possible only with a slightly larger apartment. To a greater extent this option is used by those young people whose parents live in houses that were built for their own use and were typically oversized (they are much larger than the typical single-family houses built for the construction market in the last construction cycle).

Slovenian statistical data show that both the share of young people who live with their parents alone, as well as the share of young people who live with their parents together with a partner and/or children, have significantly increased in the post-socialist period (Kuhar, 2013). Between 2007 and 2011, the share of young people in Slovenia who live with their parents additionally increased; in comparison with the other EU countries, the growth of this group of young people was higher only in Hungary (Eurofond, 2014). An increase in temporary or even permanent postponement of the entry of young people to the real estate market has therefore occurred in the time of transition and during the last economic crisis, during periods of a decline in housing construction and deteriorating financial situation of the population. As extended stay with parents, whose longevity increased during the transition period, was not reduced by the recent construction cycle, we cannot expect any significant improvements during and after the next construction cycle.

Similarly to Slovenia and Hungary, with the latest crisis, the position of young people in the real estate market has deteriorated also in the majority of other post-socialist countries, especially in Poland and Lithuania (Eurofond, 2014), suggesting that the impact of the transition on the real estate market persists. Position of young people in the real estate market is also deteriorating in the Western Europe. Although the changes there were not so radical, increased role of the market in the housing supply can also be determined (Pichler-Milanovich, 2001). Therefore, in Slovenia, as elsewhere in Europe, an increase in the share of owner-occupied housing and predominantly market housing supply can be observed. Such market model can only function with a proper housing supply, as well as with the ability of residents to generate demand for this housing. Data show that the real estate market in Slovenia is not functioning optimally, that the supply of housing is far below the satisfactory level, and that the population to a great extent solves its housing problems through the available mitigation measures. In the non-urban areas, where there are mostly large single-family houses, co-residing of young families and parents of one of the partners will prevail further into the future. In the cities, financial help of the parents in purchasing available smaller (compared to single-family houses) used housing will be dominant. Following from Figure 1 in the previous subsection, in most cases the subject

of purchase will be a housing unit which was built in the last 25 years before the transition. Considering the needs, the number of housing units completed after this period is almost negligible.

3. USE OF THE HOUSING PRICE INDEX IN THE REAL ESTATE MARKET ANALYSIS: METHODOLOGY IN THE SLOVENIAN CONTEXT

3.1. Data Source and Data Quality

The Real Estate Market Record is »the first and only systemic data source for systematic monitoring of realized contract prices of the real estate in Slovenia« (Perovšek, 2009) and as such represents the basis of all other, also officially published, data on the prices of real estate in Slovenia. The constraints faced by the analysis in this paper, are therefore to some extent the general constraints pertaining to the use of these data. Given that the Real Estate Market Record was completely re-established, the quality of data in the database from the initial period onwards is (as expected) not the best. However, the changes that have been introduced after the database was established (GURS, 2013) should improve the data quality and enable more detailed analyses in the future.

For the purposes of this analysis, the available data for the analysed period (1 January 2007 — 30 June 2012) can be deemed appropriate although not optimal (GURS, 2008). Therefore, before the analysis a substantial number of transactions that are not the subject of the analysis (e.g. for non-residential buildings) were eliminated along with transactions for which the data were insufficient (particularly due the absence of real estate prices or the information on the size of the property) or transactions that were evidently incorrectly entered into the database. Additionally, all transactions where the sale of housing as a whole was not carried out; and a small number of transactions with the lowest and highest values were also eliminated. All in all, the eliminations of bad data were carried out very carefully in order to avoid any significant impact of deletions on the results of analysis.

3.2. Units of Observation and Basic Indicators

Analysis of the real estate market is made for the territory of Slovenia and the territories of the eight largest Slovenian city municipalities (Celje, Koper, Kranj, Ljubljana, Maribor, Nova Gorica, Novo mesto and Velenje). The analysis is made for apartments in apartment buildings as well as single-family houses which were the subject of purchase contracts in the period from 1 January 2007 to 30 June 2012. Analysis of both types of housing is done only for Slovenia as a whole. Since the urban areas are dominated by the housing in apartment buildings, the analysis for these areas is limited only to this type of housing. This somewhat curtails the presentation of the Housing Price Index; it is presented only separately for each type of housing (in form of two subindices), thereby allowing greater comparability between the entire Slovenia and selected city municipalities.

The analysis is limited to the price and the size of the property, and excludes other property characteristics such as the age of the property, construction phase of the new construction and the size of the attached land. Average price per square meter and the average price for housing as a whole are calculated. Average prices are calculated using arithmetic and geometric mean. Next, quarterly chain indices are calculated using the first quarter of 2007 as a base. Indices are calculated both for the case where the unit is a square meter of the housing, as well as for the case where the unit is the housing as a whole. By expanding the range of possible calculations of the average prices and indices, we are increasing the possibility of an in-depth understanding of housing prices movements in Slovenia and in selected city municipalities over the analysed period.

4. ANALYSIS OF THE SLOVENIAN REAL ESTATE MARKET ACTIVITY

4.1. Number of Transactions

Despite some limitations resulting from the elimination of certain transactions during the preparation of data for the analysis, the number of transactions is a rather good indicator of developments in the real estate market over time, and for comparisons between different types of transactions, since it can be assumed that the compilation of data is independent of the time of transaction and it does not affect the data structure.

Figure 2 shows the number of transactions by quarters. Transactions involving housing in apartment buildings and single-family houses are shown separately. The total number of transactions included in the analysis for Slovenia as a whole and eight selected city municipalities is shown in Table 1.

Figure 2: *Number of transactions by quarters in the analysed period*

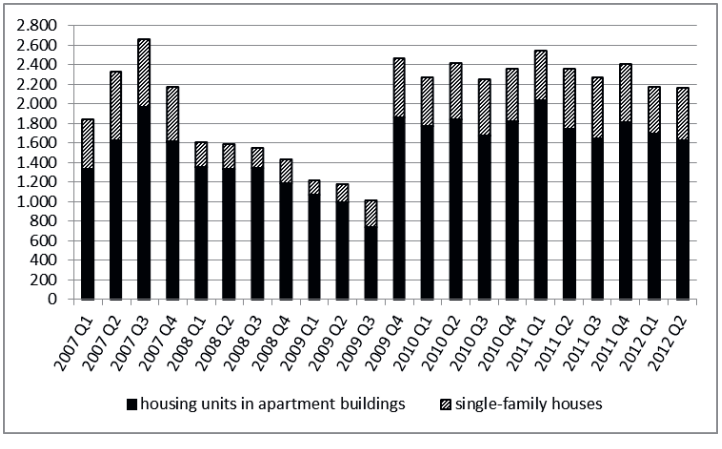


Table 1: *Total number of transactions in the analysed period*

Area*	Apartments in apartment buildings	Single-family houses	Total
Slovenia	34,153 (100,0%)	10,148 (100,0%)	44,301 (100,0%)
Celje	1,555 (4,6%)	196 (1,9%)	1,751 (4,0%)
Koper	1,055 (3,1%)	275 (2,7%)	1,330 (3,0%)
Kranj	1,482 (4,3%)	251 (2,5%)	1,733 (3,9%)
Ljubljana	9,012 (26,4%)	876 (8,6%)	9,888 (22,3%)
Maribor	4,006 (11,7%)	472 (4,7%)	4,478 (10,1%)
Nova Gorica	610 (1,8%)	154 (1,5%)	764 (1,7%)
Novo mesto	584 (1,7%)	164 (1,6%)	748 (1,7%)
Velenje	1,314 (3,8%)	91 (0,9%)	1,405 (3,2%)

* Names of cities denote the analysed city municipalities.

Most transactions in the real estate market refer to apartments in apartment buildings. The ratio between both types of housing was maintained in all quarters, as well in the years 2008 and 2009, when due to the crisis a significant decline in the housing market turnover occurred. In urban areas, subject of most transactions were housing units in apartment buildings (57.4 per cent of all transactions involving housing units in apartment buildings took place in the eight largest Slovenian city municipalities). In other areas single-family houses were the subject of most transactions; in the eight largest Slovenian city municipalities only 24.4 per cent of all transactions pertained to single-family houses.

Most transactions in the Slovenian real estate market were carried out for housing units in apartment buildings in urban areas, which suggests that in these urban areas the real estate market is more active than in other areas of Slovenia. This finding is further confirmed by a comparison of the number of completed transactions and the size of the housing stock in individual areas. According to SORS (2015) in Slovenia in 2013 there were 857,007 housing units in the housing stock, of which 284,655 housing units or 33.2 per cent of total housing stock is located in the eight largest city municipalities. At one-third share of the total housing stock, half of all real estate transactions falls to the eight largest city municipalities (22,097 or 49.9 per cent of all transactions in the analysed period), which means that housing units (especially in apartment buildings) in selected urban areas change their owner on the real estate market quite often.

According to SORS (2015), in 2008, at the peak of the latest construction cycle, in eight largest city municipalities there were 3,470 housing units completed. This represents 34.8 per cent of all housing units completed in that year, while in 2013, in the same municipalities, there were only 522 housing units completed which amounts to 15.0 per cent of the housing units completed in that year. Enlargement trends or at least trends in renewal of housing stock before the construction decline were approximately evenly distributed between the larger urban and other areas, but have almost stopped with the decline of the latest construction cycle. Therefore, the housing stock in non-urban areas

will, after the end of the cycle, to some extent still continue to renew itself through the construction of single-family houses for own use, while in the urban areas its renewal is stopping. As already noted, mostly used housing will be traded on the real estate market, among which the housing built in the last 25 years before the transition will prevail.

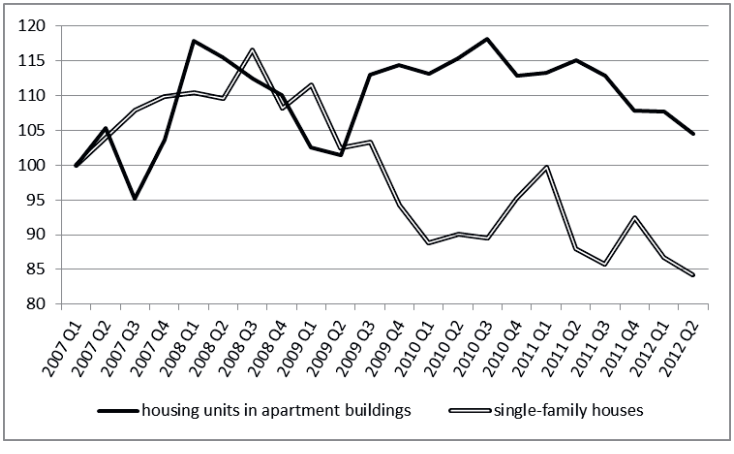
4.2. Trends in Prices for Apartment Buildings and Single-Family Houses in Slovenia

Extremely large fluctuations in the construction and supply of new constructions in Slovenia, especially in the larger cities, do not allow for analysis of real estate price trends over time, which would be based solely on new constructions. The housing price indices, which are calculated using data from the Real Estate Market Record - data which mainly relate to transactions involving used housing - are therefore probably the best approach to the analysis of the Slovenian real estate market. Analysis of these data could otherwise be improved using data of higher quality and also by weighting various categories of housing in the calculation of the overall index.

Let us take a look at real estate prices trends in the analysed period using currently available data. These enable an appropriate weighted merging of housing in apartment buildings and single-family houses in the calculation of the overall residential real estate property index, but for the purposes of this paper, indices for both categories are shown separately.

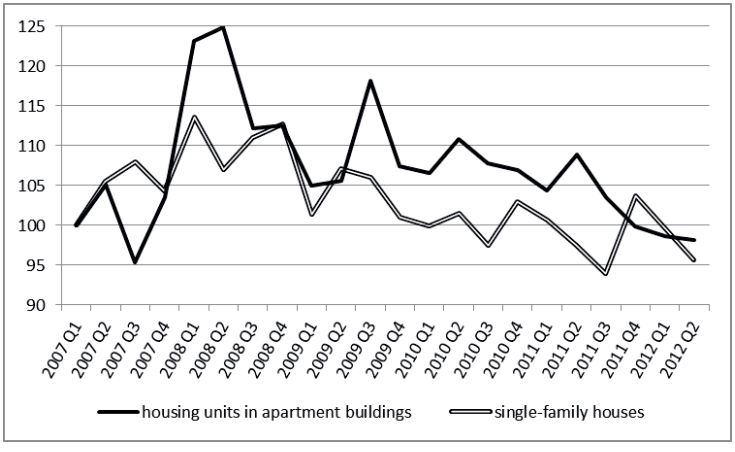
Figure 3 shows the quarterly index of housing prices in apartment buildings and single-family houses price index for the entire territory of Slovenia. The base period of the index is the first quarter of 2007 (as for all indices in this paper). Average prices were calculated as the arithmetic mean. With the indices in Figure 3 the average prices per square meter of housing are compared. In Figure 4 comparisons for housing as a whole are made; average housing prices calculated as the arithmetic mean are compared.

Figure 3: *The Housing Price Index, comparison of prices per square meter, Slovenia (arithmetic mean)*



In the second quarter of 2012 price per square meter of housing in the apartment buildings was 1,577 EUR, which is almost 5 per cent above the base quarter price, when the price per square meter was 1,510 EUR. Unlike housing in apartment buildings, the prices of single-family houses relative to the base quarter fell substantially, with the biggest fall recorded in the second half of 2009. The square meter of a single-family house in the first quarter of 2007 cost 1,031 EUR, and in the second quarter 868 EUR, which is about 15 percent below the starting point. The square meter of a single-family house was from the start a lot cheaper than a square meter of a housing unit in an apartment building. By the end of the analysed period, this difference further increased.

Figure 4: *The Housing Price Index, comparison of housing prices, Slovenia (arithmetic mean)*



Two price indices used for comparison of average housing prices are in the analysed period much closer than two indices used for comparison of average price per square meters. There are two reasons for such a state of affairs. Firstly, the prices of single-family houses decreased much less than the prices of a square meter of single-family houses. And secondly, the prices of housing units in apartment buildings did not persist so much above the price in the base period as the price per square meter of housing did. These differences occurred naturally due to changes in the size of housing, which was the subject of transactions, both due to a decrease in the average size of housing units sold in apartment buildings as well as an increase in the average size of single-family houses sold. The average size of housing units in apartment buildings which were the subject of the real estate market transactions, decreased from 56.7 to 51.9 square meters during the first quarter of 2007 and the second quarter of 2012. The average size of single-family houses, on the other hand, increased from 129.5 to 147.3 square meters during the same period.

4.3. Trends in Prices for Apartment Buildings: Comparison of Slovenia and Selected City Municipalities

When calculating average prices using the arithmetic mean all prices have equivalent weight, while when using the geometric mean, there is more emphasis on the lower prices. The price index used for comparisons of the average prices which is calculated as the geometric mean will therefore largely reflect trends in the prices of cheaper housing.

Figures 5 and 6 show the difference caused by the selection of arithmetic or geometric mean, in Figure 5 for the calculation of the average price per square meter, and in Figure 6 for the calculation of the average price of housing units in apartment buildings. How large are the differences that occur in average prices due to the choice between arithmetic and geometric mean is shown in Table 2 (for the first quarter of 2007) and Table 3 (for the second quarter of 2012).

Slightly higher index values in case where compared average prices per housing square meter were calculated as a geometric mean show a slightly higher growth in prices of cheaper housing units in apartment buildings on the Slovenian territory. But differences cannot be established for all areas of Slovenia. For Ljubljana, for example, both indices have almost the same value, which means that in the largest Slovenian municipality significant differences between cheaper and more expensive housing in apartment buildings did not occur.

Figure 5: *The Housing Price Index for apartment buildings, comparison of prices per square meter, Slovenia*

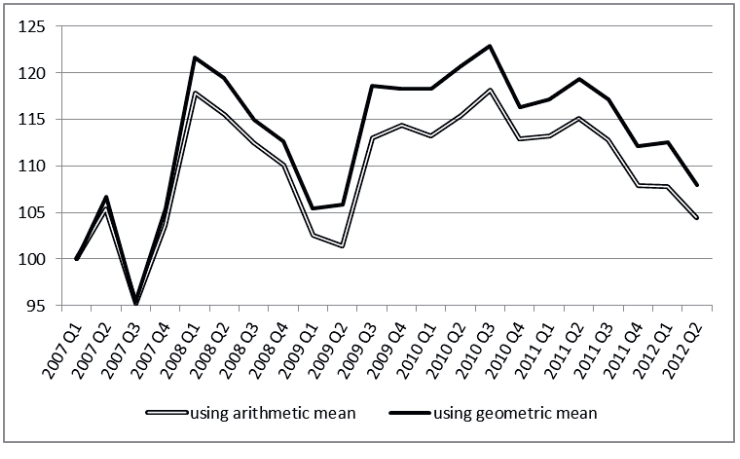


Figure 6: *The Housing Price Index for apartment buildings, comparison of the housing prices, Slovenia*

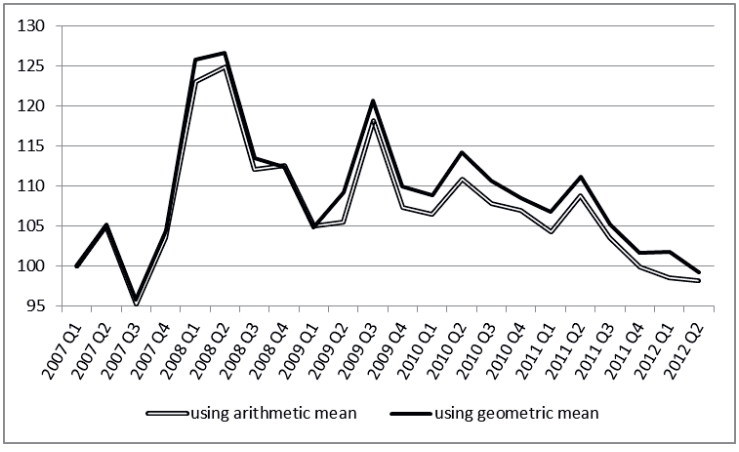


Table 2: *Average prices in the first quarter of 2007, housing units in apartment buildings*

Area*	Number of transactions	Price (in Euro)			
		Arithmetic mean		Geometric mean	
		Housing	Square meter	Housing	Square meter
Slovenia	1,337	81,860	1,510	68,505	1,304
Ljubljana	352	127,470	2,364	119,152	2,291
Maribor	166	59,921	1,107	53,471	1,032
Kranj	78	83,092	1,596	79,711	1,558
Koper	23	114,767	2,170	112,230	2,137
Celje	47	51,951	991	44,768	903
Novo mesto	34	70,600	1,309	67,867	1,284
Velenje	40	51,345	883	48,083	858
Nova Gorica	28	94,403	1,514	90,939	1,470

* Names of cities denote the analysed city municipalities.

Table 3: *Average prices in the second quarter of 2012, housing units in apartment buildings*

Area*	Number of transactions	Price (in Euro)			
		Arithmetic mean		Geometric mean	
		Housing	Square meter	Housing	Square meter
Slovenia	1,627	80,361	1,577	67,998	1,408
Ljubljana	417	120,789	2,301	109,679	2,232
Maribor	215	59,755	1,137	53,920	1,098
Kranj	67	84,190	1,689	79,373	1,646
Koper	55	107,217	2,277	100,487	2,209
Celje	62	55,468	1,147	50,827	1,095
Novo mesto	12	80,563	1,342	77,557	1,325
Velenje	35	59,228	1,161	54,430	1,136
Nova Gorica	36	78,147	1,619	74,537	1,572

* Names of cities denote the analysed city municipalities.

Among the analysed city municipalities there are considerable differences in the prices of housing units in apartment buildings. Significant differences also occur between the average prices calculated as the arithmetic and geometric mean, which suggests that there are significant differences in housing prices even within individual city municipalities. Furthermore, there are also differences between the movement of housing prices and prices per square meter of housing units as shown in Figures 7 to 12.

Figure 7: *The Housing Price Index for apartment buildings, Ljubljana, arithmetic mean*

In Ljubljana (see Figure 7), the city municipality with the largest real estate market and the highest average real estate prices, housing prices in 2010 and 2011 stabilized at a level slightly below the base quarter price. The moderate growth of prices per square meter of housing in these two years was therefore more a result of small housing sales rather than actual changes in housing prices. For the municipal area of Ljubljana, compared to other Slovenian municipal areas (and Slovenia as a whole), growth and thus decreases in prices in the analysed period were much lower. Both in the case of average price per square meter as in the case of average price of housing as a whole, the growth of prices of housing units in apartment buildings in Ljubljana during this period was 6 to 7 per cent lower than the Slovenian average.

Figure 8: *The Housing Price Index for apartment buildings, Maribor, arithmetic mean*

In Maribor (see Figure 8), the Slovenian city municipality with the second largest real estate market, in which the real estate prices are, considering other Slovenian city municipalities, among the lowest, higher growth in prices occurred in the period until the first half of 2009. Prices of housing as a whole during this period grew slightly more than the prices for a square meter of housing. A period of fall in prices followed, in which the price of housing as a whole decreased more than the price per square meter. This suggests that in the period of the reduced number of real estate market transactions, in Maribor – similarly to Ljubljana - slightly smaller housing units in apartment buildings were sold. Slightly larger fluctuations, but similar price movements as in Maribor, also occurred in Kranj.

A smaller decrease in the size of sold housing units in apartment buildings occurred in all analysed municipal areas. A break in the size of sold housing units in apartment buildings in Slovenia can be seen in the last quarter of 2009 (in the quarter characterized by an increase in the real estate market transactions), when the average size of the sold housing unit in apartment buildings decreased by approximately 4 square meters. This change in the size of the apartments was followed by the housing prices quite differently in the analysed urban areas.

Figure 9: *The Housing Price Index for apartment buildings, Koper, arithmetic mean*

In Koper (see Figure 9), the prices of housing units in apartment buildings were quite stable during the analysed period. Big growth in prices of housing as a whole towards the end of 2008 and particularly in the first half of 2009 was of a short-term nature. The average prices quickly returned to the level before that period. Such a large difference between the price of housing as a whole and the price per square meter occurred due to the specific situation in this city, where the average size of housing units sold during that period (the period of the reduced number of transactions) increased significantly. Since the second half of 2010, the ratio between the growth in prices of housing as a whole and the growth of prices per square meter stabilized and approached the situation in the rest of Slovenia.

Figure 10: *The Housing Price Index for apartment buildings, Celje, arithmetic mean*

In Celje (see Figure 10), the prices of housing in 2007 and 2008 increased significantly. Despite the fall in the first half of 2009, the prices in 2010 and 2011 were from 25 to 30 percentage points above the base level, due to a quick return to growth in the second half of 2009. The decline in the residential real estate property prices is again suggested in 2012. The difference in the movement of price per square meter and the price of housing as a whole in the analysed period was negligible.

Figure 11: *The Housing Price Index for apartment buildings, Velenje, arithmetic mean*

In Velenje (see Figure 11), similarly as in Celje, prices of housing units in apartment buildings grew considerably after the sharp short term fall in the second half of 2007. Then, the prices in this city municipality also stabilised at a level that is 30 to 35 percent above the base quarter. Despite significant fluctuations the prices did not fall back to the baseline level during the analysed period. The comparison between the index for the prices per square meter and the index for the prices of housing shows that in different periods they rather strongly deviate, depending on the size of sold housing units. However, since the second half of 2009, a situation similar to the situation elsewhere in Slovenia was established. Although the prices in general were maintained at a rather high level, the prices per square meter were considerably higher than the prices of housing as a whole. From the second half of 2009 onwards, the average size of sold housing units was reduced, which in Velenje significantly mitigated growth in the prices of residential real estate property.

Figure 12: *The Housing Price Index for apartment buildings, Nova Gorica, arithmetic mean*

Figure 12 shows that similarly to Velenje, also in Nova Gorica, another 'pure' post-socialist city municipality, the differences in the growth of prices per square meter of housing and growth in prices of housing as a whole, from the second half of 2009 onwards resulted from the considerable reduction in the size of the sold housing units. However, unlike in Velenje, the average prices in Nova Gorica during this period did not stabilise, but soon began to decline significantly. By 2012 the prices per square meter have fallen to the level of 7 percent over the baseline and the prices of housing as a whole to the level well below the baseline period.

5. CONCLUSIONS AND POLICY IMPLICATIONS

Most of the transactions carried out on the Slovenian real estate market pertain to housing units in apartment buildings in major city municipalities. This suggests that larger urban areas in Slovenia have a rather intensively active real estate market, which under the established market conditions supplies the future owners with housing effectively. Since the transactions in the real estate market are directly related to the dynamics of the population regeneration and economic as well as social development, we could conclude that the development of major Slovenian urban municipalities is guaranteed. Unfortunately, this optimism is not supported by the broader context in which the analysed real estate market transactions took place. The collapse of the Slovenian construction industry and the general economic crisis mostly affected housing construction for the urban market. Renewal of urban housing stock has a cyclical nature and is in total at present far too modest. Real estate market transactions are therefore carried out primarily for housing massively constructed during the socialist times.

While in the last post-transition construction cycle in the urban areas some housing units did get completed, the insufficient supply caused the overheating of the real estate prices on

the market, which in turn also affected the used housing prices. However, the subsequent fall in residential housing prices following this overheating is in no way associated with the increased supply of housing. It is a consequence of the reduced purchasing power of the population and related to the search of alternatives by those with the option to reside in single-family houses outside the cities.

We believe that on average, the continually older housing stock will become more and more uninteresting for the potential property buyers with sufficient purchasing power. Erosion of social mix from the socialist times will follow (Altrock, 2008). Further to that, the number of population in urban areas may decrease. For Slovenia this is not insignificant, since the current rate of urbanization is already quite low. In 2008 we had a more than 25 percentage points lower level of urbanization than we could expect based on the development level of the country (Shepotylo, 2012). As shown by data on the movement of the urban housing prices, considering the dynamics of these processes, considerable differences between the individual urban municipalities could be generated.

In Slovenia we are lacking a large number of new housing units (both for sale and for rent), which could normalize the real estate market. The gap between the supply and demand primarily exists in urban areas. Solutions will have to be consistent with the new Slovenian social reality (Mandič, 2007). In the long term that means ensuring appropriate construction and renovation of housing as well as adequate purchasing power of future housing owners in urban areas. Stability and sustainability of loan policy aimed at solving the housing problems can have significant positive effects. Interest-free loan offers which are bound to interest-free savings of the borrowers are one of the alternatives. Such alternative has been successfully practiced by the Swedish bank JAK since 1965 (Kennedy, 2012). Another special feature of this alternative is that after repaying the loan the borrower disposes with a certain saved amount that can be either invested in a new housing unit, used for renovation of the existing housing unit, or be made available for the (sustainable) intergenerational help with the goal of solving the housing problem of the children.

Based on the results of our analysis we can conclude that the Housing Price Index could be a very useful indicator when planning and monitoring urban development, but with some restrictions. The functioning real estate market is a necessary condition for its application, as the growth of the index can also be stimulated by the lack of housing stock renewal. Is the condition fulfilled, the Housing Price Index for an urban area indicating a positive growth - or at least the growth above that recorded in other (non-urban) areas - suggests the potential for development (or at least the ability to maintain the present development level) above the existing housing capabilities.

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