

SIMILARITY OF SELECTED RESIDENTIAL REAL ESTATE MARKETS IN BULGARIA AND POLAND

Izabela Račka, Ph.D.

Department of Public Management and Law

The President Stanisław Wojciechowski State University of Applied Sciences in Kalisz

Kalisz, Poland

e-mail: i.racka@pwsz.kalisz.pl – contact person

Ivo Kostov, Ph.D.

Department of Economics and Management of Construction

University of Economics – Varna

Varna, Bulgaria

e-mail: i.kostov@ue-varna.bg

Abstract

Analysis of the literature shows that studying of the housing market should take place at the local level. For this reason, for comparison of the housing markets in two CEE countries, cities of similar character and size were selected. The paper examines the development of the real estate market in the cities: Varna in Bulgaria and Gdańsk and Gdynia in Poland. We are focusing on the dynamics of the residential market in similar regions in the last few years. The paper analyzes in detail the following indicators: average housing prices, house price indexes, size of the housing stock, issued building permits, new buildings brought into use. Based on the analysis, a number of conclusions and summaries related to the subject of the study have been presented.

Key words: housing; local housing market; price indexes

Introduction

The problem of investing in the housing market has gone beyond the spatial scope of a given country for some time now. Increasingly, investors face a dilemma whether to invest in real estates for rent in the country or abroad. Apartments located in tourist resorts, especially those in coastal areas, enjoy particular popularity. Investing in residential real estates in tourist destinations is usually associated with the purchase of a flat, but for over 10 years, the supply has been also created by aparthotels and condohotels. Considerable number of investors are purchasing a so-called second home – a flat intended for a summer residence. Such apartments are bought by the Poles in the mountains or coastal villages in the country, but also abroad. An interesting direction of investment in recent years is Bulgaria.

The profitability of buying a flat abroad depends on various factors, such as a price of a flat, maintenance costs, rents, etc. The starting point in the investment profitability analysis is the level of housing prices and the situation on the housing market, which largely determines the level of prices.

The aim of the article is to analyse and diagnose the situation in the housing markets in Poland and Bulgaria on the example of selected coastal towns. This paper studies the dynamics and development of the real estate market in Bulgaria and Poland, and more specifically residential market in similar cities: Varna in Bulgaria and Gdańsk and Gdynia in Poland in the last few years.

The study is based on data from the Republic of Bulgaria's National Statistical Office (NSI), the Central Statistical Office (CSO), the National Bank of Poland (NBP), Eurostat and other European secondary data sources.

Background

Bulgaria and Poland are located in Central and Eastern Europe, and are quite similar to each other in terms of contemporary history and the political and economic situation. Bulgaria is considered an upper-middle-income country according to the WORLD BANK (2017). Traditionally an agricultural country, Bulgaria is now considerably industrialised. Industry represents 28% of the GDP, and it depends on the heavy manufacturing sectors (metallurgical, chemical, machine building), which were developed during the socialist period. The most dynamic sectors are textile industry, pharmaceutical products, cosmetic products, mobile network industry and software industry. Agriculture employs only 7% of the active population

(SANTANDER TRADE PORTAL, 2018a). Poland is classified as high-income economy (WORLD BANK, 2017). In Poland, agriculture employs 10.9% of the workforce. The industry sector accounts for 33.7% of GDP. The country's main industrial sectors are machine manufacturing, telecommunications, environment, transport, construction, industrial food processing and information technologies. The tertiary sector represents 63.6% of GDP. The services sector is booming, especially financial services, logistics, hotel services, utilities and IT (SANTANDER TRADE PORTAL, 2018b).

The countries differ in terms of location, area, population, GDP level and other factors (table 1).

Table 1. Basic socio-economic indicators for Bulgaria and Poland.

Dimension/ Country	unit	Bulgaria	Poland
Total population ^c	Thousand persons	7,103.78(p)	38,422.00
Total employment ^c	Thousand persons	3,525.33(p)	16,423.00
GDP ^b	Current prices, million Euro	48,128.6	425,980.2
GDP ^c	Current prices, million Euro	50,430.1(p)	465,651.6
Real labour productivity ^c	Per person; index 2010=100	118.8(p)	117.8(p)
Disposable income ^{a/b}	Euro per inhabitant, net	3,500.00 / 4,200.00	6,400.00 / .

Legend: p – provisional, a – 2015, b – 2016, c – 2017.

Source: NSI and NBP.

In the last decade, the real estate market in Bulgaria has gone through different stages of development which in economic theory and practice are known as growth, saturation, decline, maturity and recovery. The rapid growth of the 2003–2008 period associated with the preparation and accession into the European Union, was followed by a financial crisis period which escalated into a global economic imbalance. With the exception of the agricultural land market, Bulgaria's real estate market was significantly affected during that time period, which was attested mainly by a lack of real estate demand, an increased supply of different real estate properties (dwellings, commercial property, office spaces, industrial property, storage sites etc.), a limited activity in new construction etc. The first signs of market equilibrium recovery were registered in 2014 when the resulting bank crisis led to a drastic drop in interest rates on deposit accounts of natural and legal persons offered by the country's banking institutions. The direction of significantly large capitals of commercial banks towards investments in real estate was a logical consequence of this market-related process.

A significant crisis on the real estate market in Poland was recorded before it joined the European Union, and it was noticed first of all in 2002. Since 2003, prices have been increasing, the number and value of transactions in the main market segment (apartments) increased until the end of 2008. In the years 2010-2013, a steady increase in the number of transactions was observed. In 2014, there was a slight decrease in the number and value of dwellings transactions. Since 2015, the increase in dwellings sales has been recorded.

Similar trends can be observed in the built-up land segment. Undeveloped plots were sold at a comparable level before and after the crisis in 2009, however, a significant increase in land prices since 2010, both within the city limits and in rural areas is noticeable (TOKARCZYK-DOROCIAK, KAZAK, SZEWRANSKI, 2018). Agricultural land constituted the most significant category of real estate in terms of the amount of land properties sold (approximately 60% in terms of quantity and approximately 50% in terms of the value of sales of undeveloped land in total). The dominant form of agricultural land turnover, both in terms of quantity and value structure, was market sales, which accounted for 93.5% and 91.8% of turnover in arable lands in Poland, respectively.

Material and methods

Real estate market research methods were discussed by CARR, LAWSON and SCHULTZ (2003), GREER and KOLBE (2003), PRYSTUPA (2015), BEŁEJ and ZAWADZKA (2015), pointing out the need to analyse attitudes and expectations of consumers, sellers' offer (type of residential property, the structure of households, whether the form of property management dominate on the local market), transferability of real estate, profitability of investments, determination of investment risk.

The housing market can be analysed using statistical and econometric methods (GACA, 2017), price changes over time are also analysed using price indices (hedonic regression, repeat sale, stratification method etc.) (BARDHAN et al., 2011). Real estate market analysis is carried out in terms of three elements of the market: demand, supply and prices.

The analysis of housing demand shows that it is characterised by relatively low price elasticity, i.e. it reacts poorly to changes in housing prices (this results from the lack of substitutes, e.g. apartments located in different cities or those with different standards are not substitutes) (MYERS, 1994, NESE, 1999).

The supply of flats is usually inflexible (WANG et al., 2012). The analysis of housing supply should be conducted not for the entire domestic housing market, but separately for local real estate markets. According to STOVER (1986), the joint presentation of data from different cities may lead to incorrect estimation of the price elasticity of supply. HLAVACEK and KOMAREK (2011) divide supply in the residential real estate market into two segments:

- existing housing development, with inflexible supply and a fixed price,
- new housing construction, where there is a relationship between the price and the number of buildings started.

The supply of existing flats can be estimated using the saturation indicator of housing needs (number of flats per 1000 inhabitants) and its dynamics (number of newly completed flats). A higher level of satisfaction of housing needs should lead, *ceteris paribus*, to reducing the pressure on housing prices. The price of a flat is its value expressed in money. The price of equilibrium in the housing market would mean that at a given price level the size of all the dwellings area satisfies the desires of all consumers, and there is no vacant space on the market (GREER, KOLBE, 2003). Some authors claim that the real estate market strives for balance, but never reaches this state (NBP, 2013). The real estate market is in a state of permanent imbalance (AUGUSTYNIAK et al., 2012, KUCHARSKA-STASIAK et al., 2012).

The real estate market remains sensitive to social, demographic, political or economic changes in a given area (RAĆKA, 2017). The factors affecting the housing market include: population, age structure of the population, family situation (number of households), employment, wage level, income stability, propensity to save, availability of loans, condition and structure of the housing stock in a given area, rents, vacancy rate, availability and prices of land for new investments, prices and availability of building materials and others. Residential real estate is much more related to the location than, for example, investment real estate. When making an investment decision, investors often go beyond the local market (KUCHARSKA-STASIAK, 2010). Housing real estate, however, especially in the countries of Central and Eastern Europe, where the historical conditions of the ownership structure of residential properties explain the current low level of population mobility, are much more exposed to competition on the local market (RAĆKA et al., 2015).

The subject of local real estate markets was dealt with by LUND (2014) or RANCI, BRANDSEN and SABATINELLI (2014). The locality of the real estate market is also confirmed by research carried out by. DZIAUDDIN, ISMAIL and OTHMAN (2015), BELEJ and KULESZA (2014) and BATÓG, FORYŚ and GACA (2017), who demonstrate the diversification of the strength of the influence of significant factors on the level of housing prices on the markets of individual cities. The results of the above tests do not exclude the similarity of local markets. BELEJ and CELLMER (2007) are the authors of the concept of assessing the scale of similarity of local real estate markets using statistical inference procedures derived from multidimensional exploration techniques and nonparametric methods, and OLEŃCZUK-PASZEL (2012) – using taxonomic methods.

Results and discussion

Issues related to the Polish housing market were the subject of KAŁKOWSKI (2012), NYKIEL (2008), ŁASZEK (2011), GAWRON (2012), KUCHARSKA-STASIAK, ZAŁĘCZNA and ŻELAZOWSKI (2012) and other authors' research. The real estate market in Bulgaria was examined by TSENKOVA (1996), RIZOV (2003) and STOENCHEVA (2017). So far, however, few authors have decided to compare real estate markets in these countries (PALICKI et al., 2015; PAWLIKOWSKA et al., 2017).

The subject of the research is the residential real estate market in Varna, Gdańsk and Gdynia, touristic cities located by the sea, similar one to another in terms of population (table 2).

Table 2. Basic socio-economic indicators for Varna (Bulgaria) and Gdańsk and Gdynia (Poland).

Dimension /City	Varna	Gdańsk	Gdynia
Country	Bulgaria		Poland
Region	Severoiztochen		Pomorskie
NUTS 2	BG33		PL63
Population of Region [thousands]	944.5		2315.6
Population of Cities	334,466	463,754	246,991

Source: NSI and NBP.

In order to better understand the condition of residential property market in analysed cities as well as their dynamics in the last few years, we focus on the principal indicators describing housing market: average market prices of dwellings, housing price indexes, number and usable area of existing dwellings, issued building permits, the new buildings brought into use.

Table 3. Average residential market unit prices in the compared cities (€).

City/Period	2015 (Q1)	2017 (Q4)
Varna	758	936
Gdańsk	1231	1497
Gdynia	1162	1399

Source: NSI and NBP.

The data from table 3 indicate that the price level in Gdańsk and Gdynia is almost half higher than in Varna. Generally the level of prices in the residential real estate market in Poland is higher than in Bulgaria (KOSTOV et al., 2014). The average market price rates of dwellings in Varna increased significantly in the period from 2015 to 2017, especially in official results provided by the NSI, according to which the growth rate is almost 20%. Other investigated sources of data (MIRELA, 2017) note that for the studied period the growth of average housing prices in Varna is approximately 5% from realised deals and almost 10% when it comes to offers (IMOT, 2017; IMOTI, 2017; MIRELA, 2017). In the corresponding period, the prices of apartments in Gdańsk, according to data from the National Bank of Poland, increased by 23%, and in Gdynia by 21%.

Basing on public data, we can monitor the house price indexes (HPI) for the whole countries, regions and analysed cities (fig. 1-3). What is striking is that the Varna's trend does not follow the Bulgarian main trend of dynamic growth, the same as Gdańsk's trend does not follow Polish HPI, but HPI in Gdynia follows Polish HPI. In Poland, the national HPI is highly correlated with the regional HPI, whilst the Bulgarian national trend it is not convergent with the regional trend, but regional (Severoiztochen Region) HPI corresponds to local (Varna) HPI.

The course of business fluctuations on the real estate market may be different in its various segments, as well as in different regions of the country (BAUM, HARTZELL, 2012). These fluctuations – due to changes in the economic situation – often have a national range. In the residential real estate market, due to the constancy of the property in the place, the fluctuations are of local and regional nature, and therefore the trends in the domestic economy may be completely different (opposite) from the trends on the local residential real estate markets.

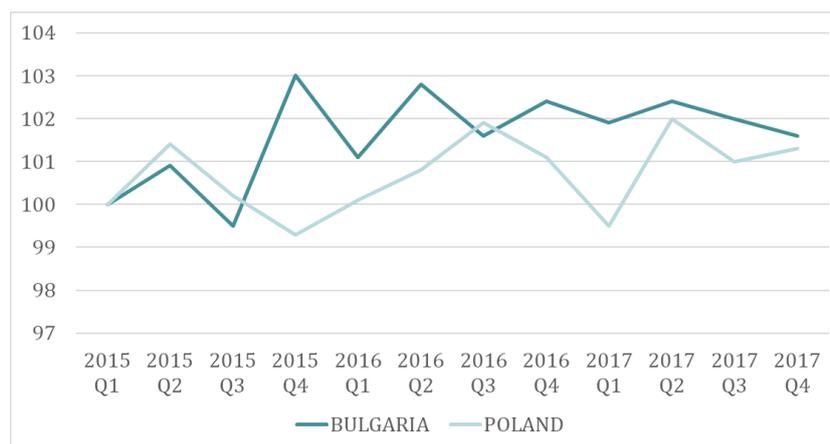


Fig. 1. National HPI in Bulgaria and Poland (Previous Quarter=100).

Source: Own study based on NSI, CSO and NBP.

National trends in Bulgaria and Poland are not correlated ($r=0.001$). Both HPIs are characterized by low dispersion ($CV_{BG}=0.011$, $CV_{PL}=0.009$), however, in both countries there are clear differences between the scale and direction of changes in the price level in individual quarters. Except for the 3rd quarter of 2015 the housing prices in Bulgaria has been raising, in Poland there were two exceptions (4th quarter of 2015 and 1st quarter of 2017).

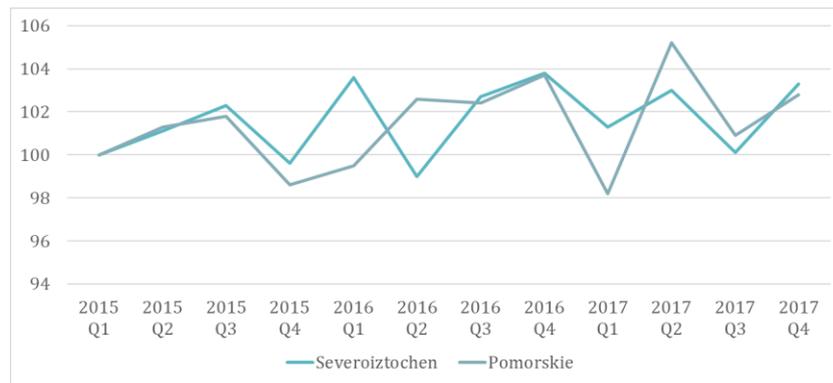


Fig. 2. Regional HPI in Severoiztochen and Pomorskie (Previous Quarter=100).
Source: Own study based on NSI, CSO and NBP.

In the analysed regions, regional trends in Bulgaria and Poland are rather weekly, but positive, correlated ($r=0.43$). Both HPIS are rather weakly dispersed ($CV_{SR}=0.017$, $CV_{PR}=0.021$), although the direction of changes in the level of prices in individual periods is similar. Except for the 4th quarter of 2015 and 2nd quarter of 2016 the housing prices in Severoiztochen Region (SR) has been raising, in Pomorskie Region (PR) there were three exceptions (4th quarter of 2015, 1st quarter of 2016 and 1st quarter of 2017).

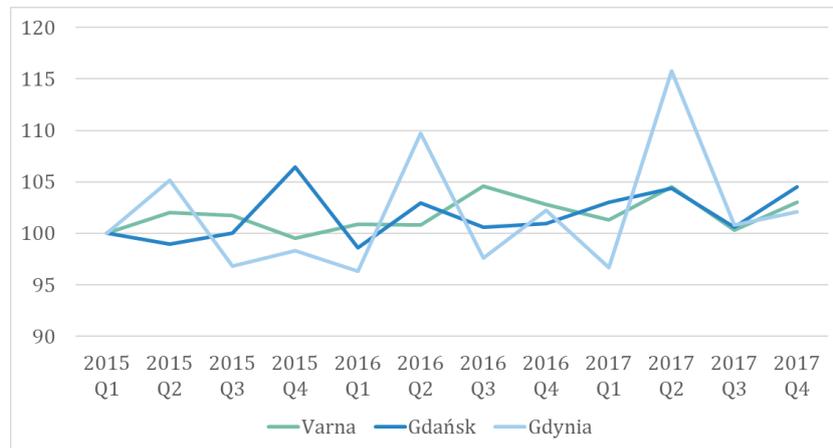


Fig. 3. Local HPI in Varna, Gdańsk and Gdynia (Previous Quarter=100).
Source: Own study based on NSI, CSO and NBP.

Local trends in the analysed Bulgarian and Polish cities are weakly correlated (Varna-Gdańsk $r=-0.052$, Varna-Gdynia $r=0.362$). HPI for Varna is less diversified ($CV_{Varna}=0.016$), than in analysed Polish cities ($CV_{Gdańsk}=0.024$, $CV_{Gdynia}=0.058$). The direction of changes in the price level in analysed periods is similar in all examined cities in only 5 out of 12 analysed quarters. Except for the 4th quarter of 2015 the housing prices in Varna has been raising, in Gdańsk there were two exceptions (2nd quarter of 2015 and 1st quarter of 2016), in Gdynia five (3rd and 4th quarter of 2015, 1st and 3rd quarter of 2016 and 1st quarter of 2017).

Based on the results in fig. 1-3, we can clearly recognise that the change in residential property price indexes in years 2015-2017 is around 20% in Bulgaria (which amounts 7% per year on average) and 9% in Poland (3% per year on average). Higher average HPI increases were recorded in selected regions of both countries (22% in the entire analysis period in Severoiztochen Region and 18% in the Pomeranian Region), even higher in the analysed local markets (23% in Varna, 23% in Gdańsk and 22% in Gdynia).

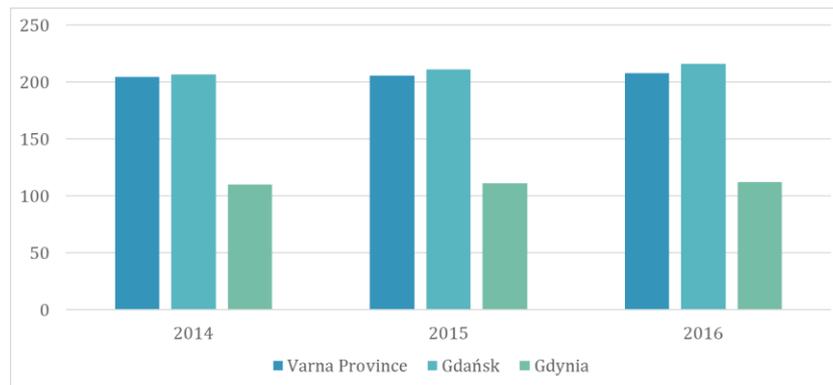


Fig. 4. Number of dwellings in analysed cities (thousands).
Source: Own study based on NSI and CSO.

What is interesting is the data regarding the number and usable area of the existing dwellings in the analysed cities (fig. 4-5). The 2014–2016 period is marked by the following principal trends: an increase of the number of dwellings as well as of their total usable area; there is a predominance of two-room and three-room dwellings; the number of multi-room dwellings is insignificant. The area of the housing stock in Varna increased in 2014–2016 by 1.9%, i.e. to the same extent as the number of flats. In Gdańsk, a 4.3% increase in the usable floor space of dwellings and a slightly larger increase in the number of dwellings completed (4.4%) was recorded within two years. This means that newly built flats have a smaller average area than the average area of flats in the resource. In turn, the situation in Gdynia is reversed – the area of the average newly built apartment is larger than the average area of the flat in the resource. In the area of flats, an increase of 2.3% was noted, in the scope of their number by 2%.

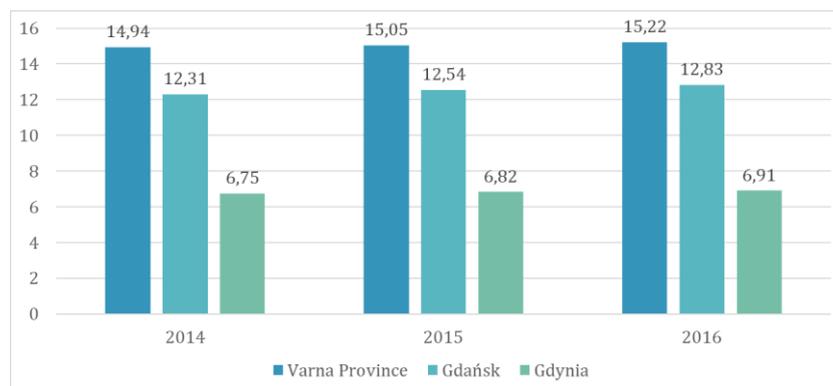


Fig. 5. Usable area of dwellings in analysed cities (millions).
Source: Own study based on NSI and CSO.

The emerging residential market trends in Varna and the region, supported by the statistics, indicate the growth of granted construction permits (by number of residential buildings, number of dwelling units and their total useful floor area). Regarding types of construction, concrete and steel buildings are predominant, followed by brick and other kinds of prefabricated structures.

When comparing the data of the already existing dwellings and the new dwellings brought into use (for the 2014–2016 period), it becomes clear that Severoiztochen Region follows a trend of primarily building two and three-room apartments. There is, however, another interesting market tendency worth noting – there are more new brought into use one-room apartments compared to four-room ones. However, among the already existing dwellings (in cities within Varna province) there are more with four rooms than with one. The number of new five-room dwellings brought into use as well as the residences with six or more rooms has remained almost constant during the studied period.

The residential real estate market in the Pomeranian Region is the third most significant regional market in Poland. Domestic sales dominates here, as in the entire secondary market, although in terms of the value of apartments sold, the primary market accounts for over 50% of turnover.

Among the residential premises sold on the primary market, the largest share had three-room and two-room premises. About half of the sold dwellings had a usable area ranging from 40.1 to 60 m². The second most sold group of residential premises were premises with an area of 60.1 to 80 m². The average

usable floor area of dwellings sold on the primary market is approximately 55 m². In the secondary market, in terms of the number of transactions, the largest share was held by 3-room flats (nearly 42%). About 45% of the dwellings had a usable area ranging from 40.1 to 60 m², the second most sold group of dwellings were those with an area of up to 40 m². The average usable floor area of dwellings sold on the secondary market was lower than the average for the primary market and amounted to less than 53 m² (CSO, 2015, 2016, 2017).

The last point of the analysis is an attempt to diagnose the housing situation in the analysed cities. Taking into account the data from the Census in 2011, the indicator of the number of apartments per 10,000 inhabitants for each analysed city was calculated. The housing situation is difficult to diagnose. The basic difficulty is due to the lack of up-to-date data on the number of households that is necessary to determine housing needs. Another problem is the inability to assess the technical and usable state of existing resources. In general, when analysing data within individual territorial units, we can conclude that the housing situation in both countries is not sufficiently favorable. This is evidenced by both data on the size of the resource attributable to households as well as residential deprivation rates (RAČKA, BIEDA, 2017). The housing deprivation rate indicates which part of the population lives in overcrowded flats and is deprived of elements necessary to live in appropriate conditions, which include: leaking roof, damp walls, floors and foundations, damaged window frames, damaged floors, no bathtub or shower in the apartment, no individual toilet in the apartment, underexposure of the apartment. Eurostat data indicate that housing deprivation in Bulgaria and Poland is quite high: around 11.4% of the Bulgarian population live in poor housing conditions, and 41.4% people live in overcrowded homes, in Poland 9.8% of the population live in poor housing conditions, and about 43.4% people live in overcrowded homes (EUROSTAT, 2018).

Conclusions

On the basis of the presented analytical information, related to the residential property market in the analysed cities in years 2014–2017, we can draw the following key conclusions:

- There is a trend of constant growth of the average market prices of dwellings on all the surveyed local markets;
- According to official statistical information gathered from NSI, the annual average growth of dwelling prices in the city of Varna is around 8%;
- Based on data from the Central Statistical Office and the National Bank of Poland, the prices in Polish cities are more than a half higher than in the comparable location and size city of Varna;
- The growth of average residential market prices is higher than that of rental rates, and rental rates are declining;
- There is a trend of increase in the number of existing dwellings with two and three-room housing units being predominant.

Housing markets in Varna, Gdańsk and Gdynia are in a state of significant dynamic development. The results of the study support that claim entirely. A positive trend can be seen in all of the primary market indicators: the average residential market prices, indexes of dwelling prices, number of existing dwellings, housing sales, deals with legal and contractual mortgages, construction activity regarding new dwellings, residential buildings brought into use and their housing units. The reasons for the current market's condition may vary but the most important ones are: reduced levels of interests on deposits to natural and legal persons in banking financial institutions, capital protection from inflationary processes, significant real estate investment security, low rate of building depreciation, opportunities for generating revenue from investments in real estate plus capital revenue of said investments.

References

- AUGUSTYNIAK, H., ŁASZEK, J., OLSZEWSKI, K., WASZCZUK, J. 2012. *Modelowanie cykli na rynku nieruchomości mieszkaniowych – uwzględnienie interakcji pomiędzy rynkiem pierwotnym oraz wtórnym i efekty mnożnikowe*. In: NBP, Raport o sytuacji na rynku nieruchomości mieszkaniowych i komercyjnych w Polsce w 2011, p. 132-149.
- BARDHAN, A., EDELSTEIN, R., KROLL, C. A. 2011. *Global Housing Markets: Crises, Policies, and Institutions*. The Robert W. Kolb Series in Finance, John Wiley & Sons, Hoboken, New Jersey.
- BATÓG, B., FORYŚ, I., GACA, R. 2017. *Spatial Autocorrelation in the Analysis of the Land Property Market on the Example of Szczecin and Bydgoszcz*. Acta Universitatis Lodziensis. Folia Oeconomica, 3(329): 33–43.
- BAUM, A., HARTZELL, D. 2012. *Global Property Investment Strategies, Structures, Decisions*. Wiley-Blackwell, A John Wiley & Sons Ltd. Publication, United Kingdom.

- BELEJ, M., KULESZA S. 2014. *Similarities in Time-Series of Housing Prices on Local Markets in Poland*. Real Estate Management and Valuation, 22(3): 45-53.
- BELEJ, M., ZAWADZKA, A. 2015. *Wprowadzenie do stosowania praw skalowania w analizach dynamiki rynków nieruchomości*. Wycena. Wartość-Obrót-Zarządzanie nieruchomościami, 3(112): 30-37.
- CARR, D.H., LAWSON, J., SCHULTZ, J. 2003. *Mastering Real Estate Appraisal*, Dearborn Real Estate Education, Chicago, USA.
- CSO, 2015. *Real Estate Sales in 2014*. Warszawa.
- CSO, 2016. *Real Estate Sales in 2015*. Warszawa.
- CSO, 2017. *Real Estate Sales in 2016*. Warszawa.
- DZIAUDDIN, M.F., ISMAIL, K., OTHMAN, Z. 2015. *Analysing the Local Geography of the Relationship Between Residential Property Prices and Its Determinants*. Bulletin of Geography. Socio-economic Series, 28(28): 21-35.
- EUROSTAT, 2018. *Database* / <http://ec.europa.eu/eurostat/data/database> (access 12.04.2018).
- GACA, R. 2017. *Metody statystyczne i modele ekonometryczne w wycenie nieruchomości Czy metoda wyceny powinna być adekwatna do charakteru badanego zjawiska?* Rzeczoznawca Majątkowy, 2/2017: 11-16.
- GAWRON, H. 2012. *Potrzeby mieszkaniowe klientów na lokalnym rynku nieruchomości mieszkaniowych i sposoby ich zaspokajania (na przykładzie Poznania)*. Katedra Inwestycji i Nieruchomości, Uniwersytet Ekonomiczny w Poznaniu, Poznań.
- GREER, G.E., KOLBE, P.H.T. 2003. *Investment Analysis For Real Estate Decisions*. Dearborn Real Estate Education, Chicago, USA.
- HLAVACEK, M., KOMAREK, L. 2011. *Regional Analysis of Housing Price Bubbles and Their Determinants in the Czech Republic*. Finance a Uver/Czech Journal of Economics and Finance, 61(1): 67-91.
- IMOT.BG, 2017. *Property price statistics* / <https://www.imot.bg/pcgi/imot.cgi> (access 11.10.2017).
- IMOTI.NET, 2017. *Statistics Average Prices* / <https://www.imoti.net/bg/sredni-ceni> (access 11.10.2017).
- MIRELA.BG, 2017. *Average Property Prices in Bulgaria* / https://www.mirela.bg/index.php?p=stats_form (access 11.10.2017).
- KAŁKOWSKI, L. 2012. *22 lata polskiego rynku nieruchomości. Monitoring za lata 1990-2011*. Instytut Rozwoju Miast, Kraków.
- KOSTOV, I., PALICKI, S., RAĆKA, I. 2014. *Comparison of Bulgarian and Polish Residential Market as an example of Varna, Poznan and Kalisz*. Biuletyn Stowarzyszenia Rzeczoznawców Majątkowych Województwa Wielkopolskiego, 3: 5-14.
- KUCHARSKA-STASIAK, E. 2010. *Nieruchomość w gospodarce rynkowej*, Wydawnictwo Naukowe PWN, Warszawa.
- KUCHARSKA-STASIAK, E., ZAŁĘCZNA, M., ŻELAZOWSKI, K. 2012. *Wpływ procesu integracji Polski z Unią Europejską na rozwój rynków nieruchomości*. Wydawnictwo Uniwersytetu Łódzkiego, Łódź.
- LUND, B. 2014. *Understanding Housing Policy (Second Edition)*. Policy Press, Bristol.
- ŁASZEK, J. 2011. *Recent Developments in the Housing Market in Poland*. Housing Finance International, 25(4): 6-15.
- MYERS, D. 1994. *Economics and Property*. Estate Gazette.
- NBP, 2013. *Raport o sytuacji na rynku nieruchomości mieszkaniowych i komercyjnych w Polsce w 2012 r.*, Warszawa.
- NESE, A. 1999. *Housing Demand in Italy: A Microeconomic Analysis*. Giornale degli Economisti e Annali di Economia, Nuova Serie, 58 (1): 63-94.
- NSI, 2017a. *Housing Fund*. <http://www.nsi.bg/en/content/5732/housing-fund> (access 10.10.2017).
- NSI, 2017b. *Housing Price Statistics* / <http://www.nsi.bg/en/content/13023/housing-price-statistics> (access 09.10.2017).
- NYKIEL, L. 2008. *Rynek mieszkaniowy w Polsce*. Zeszyt Hipoteczny 25/2008, Fundacja na Rzecz Kredytu Hipotecznego, Warszawa.
- OLEŃCZUK-PASZEL, A. 2012. *Podobieństwo lokalnych rynków nieruchomości jako aspekt analizy w wycenie nieruchomości*. in: *Analiza rynku nieruchomości. Materiały konferencyjne*. XXI Krajowa Konferencja Rzeczoznawców Majątkowych, Międzyzdroje, p. 197-206.
- PALICKI, S., RAĆKA, I., KOSTOV, I. 2015. *Aesthetic Dimension of Urban Revitalisation in Polish and Bulgarian Cities*. Świat Nieruchomości 4(94): 67-72.
- PAWLIKOWSKA, E., POPEK, P., BIEDA, A., MOTEVA, M., STOEVA, A. 2017. *Analysis of the Legal Methods of Agricultural Land Protection in Central Europe On the Example of Poland and Bulgaria*. Real Estate Management and Valuation, 25(2): 58-71.
- PRYSTUPA, M. 2015. *Wykorzystywanie metod statystycznych w procesie wyceny*. Rzeczoznawca Majątkowy, 2(86): 3-8.

- RANCI, C., BRANDSEN, T., SABATINELLI, S. (ed.) 2014. *Social Vulnerability in European Cities: The Role of Local Welfare in Times of Crisis*. Palgrave Macmillan, London.
- RĄCKA, I. 2017. *Jakość informacji na rynku nieruchomości w Polsce (The Quality of Information on the Real Estate Market in Poland)*. *Problemy Jakości*, 4: 19–25.
- RĄCKA, I., BIEDA, A. 2017. *Local Instruments of Housing Policy in Poland*. *Świat Nieruchomości*, 4(102): 39–46.
- RĄCKA, I., PALICKI, S., KOSTOV, I. 2015. *State and Determinants of Real Estate Market Development in Central and Eastern European Countries on the Example of Poland and Bulgaria*. *Real Estate Management and Valuation*, 23(2): 77–90.
- RIZOV, M. 2003. *EU Accession and the Bulgarian Real Estate Market*. *European Planning Studies*, 11(8): 1001–1004.
- SANTANDER TRADE PORTAL, 2018a / <https://en.portal.santandertrade.com/analyse-markets/bulgaria/economic-outline> (access 12.04.2018).
- SANTANDER TRADE PORTAL, 2018b. <https://en.portal.santandertrade.com/analyse-markets/poland/economic-political-outline> (access 12.04.2018).
- STOENCHEVA, Y. 2017. *Comparative Analysis of Return on Investment in the Bulgarian Real Estate Market*. *Economic Alternatives*, 4: 634–650.
- STOVER, M.E. 1986. *The Price Elasticity of the Supply of Single-family Detached Urban Housing*. *Journal of Urban Economics*, 20(3): 331–340.
- TOKARCZYK-DOROCIAK, K., KAZAK, J., SZEWRĄŃSKI, S. 2018. *The Impact of a Large City on Land Use in Suburban Area – The Case of Wrocław (Poland)*. *Journal of Ecological Engineering*, 19(2): 89–98.
- TSENKOVA, S. 1996. *Bulgarian Housing Reform and Forms of Housing Provision*. *Urban Studies*, 33(7): 1205–1219.
- WANG, S., CHAN, S.H., XU, B. 2012. *The Estimation and Determinants of the Price Elasticity of Housing Supply: Evidence from China*. *Journal of Real Estate Research*, 34(3): 311–344.
- WORLD BANK, 2018. *World Development Indicators Maps 2017* / <https://data.worldbank.org/products/wdi-maps> (access 12.04.2018).