

Regional Development of Residential and Commercial Real Estate in Poland and the Risk of Real Estate Cycles

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Abstract

The property market is local and thus regional factors have a very important impact on its evolution. However, global factors also have an impact. This paper explains that fast economic growth can lead to strong cycles in the market and also cause problems for the stability of the economy. With a case study of the housing market in Warsaw we show that very different economic and regulatory factors can create cycles which look quite similar at first sight. We conclude that one needs to understand the fundamentals of a given cycle to be able to smooth it. The main driver of the cycle in Poland is the significant shortage of housing units, and thus people react very strong to any possibility of improving their living conditions. Rises in income or declines of mortgage costs trigger a demand boom, while the supply side is constrained by regulations and increasing construction costs. The excessive demand leads to quite strong cycles which could be smoothed with a large amount of rental housing.

Keywords: regional real estate market, real estate cycles, foreign investment

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Introduction

The aim of this article is to bring together the development of the residential and commercial real estate markets, in order to explain how those markets evolved in Poland and how important they are for the economy. Both markets move in cycles and those cycles can generate problems for the stability of the economy, thus this aspect is also discussed. Newly constructed and state-of-the-art real estate from the existing stock, both residential and commercial, has a significant impact on the economic growth and the well-being of the inhabitants of developed countries. The markets have a local character, and they add to inter-regional differences, which can be in some cases bigger than the difference in economic development between countries.

The analysis of housing cycles in OECD countries over the last decades by André (2010) shows that the cycles became to a large degree connected since the early 2000's. Some decades ago the real business cycle and the housing cycle (measured by the deviation of real prices and the output gap from the trend) were quite closely connected on average for the OECD. However, since the early 2000's, the two cycles lost their synchronization. Even though the economy in the early 2000's was not growing very strongly, house prices and housing investment rose very quickly. The author explains this phenomenon with the low interest rates and mortgage market innovations. Additionally,

* The views presented in the article are those of the authors and do not necessarily reflect the official position of the Narodowy Bank Polski.

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in some countries which allowed for equity withdrawal, private consumption was boosted by rising house prices. When the global financial crisis emerged in 2007 the real estate cycle synchronized again with the real business cycle—both observed a sharp drop.

House cycles and also commercial real estate cycles are driven by interest rates, which transfer the total price in monthly payments. Already Burnham (1972) found that interest rates are the most important explanatory variable for house prices in the US. The lower the interest rate, the cheaper the real estate, both in terms of mortgage costs and alternative costs. Another demand driver is rising income, which makes households desire more housing, as it becomes relatively cheaper. Moreover, as Sommervoll, Borgersen and Wennemo (2010) state, households form extrapolative expectations, by which rising prices increase housing demand and add to further price growth. This phenomenon can be explained by speculative behavior and also by the fact that households are worried that price rises will make housing unaffordable, thus they speed up their purchase decisions. As concerns the commercial real estate market, the most known model is the Dipasquale and Wheaton (1992) model, which shows the relation between demand for space and new construction. When demand for space increases (more firms want to rent space) rent levels increase. The value of a property is measured by the discounted stream of rental income, which is discounted by the current market interest rate. When rents go up, or interest rates decline, real estate prices go up and it becomes profitable to construct new space. A similar reasoning applies to the rental market in the housing segment.

The revolution in the global real estate market came about in the 1980s, as before that time housing was considered just as a technological and social problem and commercial real estate such as offices, and to a smaller degree shopping malls, as an add-on to factories and the extension of the production process. As concerns housing, the market and the whole sector was dominated by housing policy and various subsidies and regulations, which tried to improve the well-being of the population which was rather poor before WWII. Initially, the government did not intervene, there was a complete deregulation of the market and people across Europe and also in the US used to live in very poor but expensive rental housing. The aim of the post-war housing policy was the improvement of the housing situation and there was little room for research. The interest of researchers focused on social problems and on technological problems, such as the social composition of cities, or the materials that should be used for the construction process. Interestingly, the social and technological approach was also adopted in socialistic countries.

In socialistic Poland every loyal citizen had a right to a home and housing was considered an instrument of employment policy—people obtained the right to live in a given location when their skills and abilities were needed for a factory or large state-owned enterprise in a nearby location. Contrarily, retail premises were treated as costs that diminished the GDP. Thus, there were hardly any shopping malls, and premises that would be called high street shops today were of rather poor quality. Some positive sentiments were given to office buildings, but besides those constructed by foreign firms, offices were of the same low quality as the average multi-family dwelling.

The 1980s were a time of deregulation throughout the world and politicians wanted to make the society more liberal. There was a discussion, especially in the US, of how the residential sector should look and how it should work. After the crisis in the commercial real estate sector in the late 1980s, that sector became a point of interest. Private ownership of housing became an important issue and the political debate focused on the functioning of the market, housing finance and subsidies. Subsidies that were oriented towards housing in general were now to be oriented towards those households who really needed and deserved them. This was an important step in the rationalization of budget expenses that were housing oriented. There was a wide call for a range of new mortgage products which allowed households with a small down payment to move smoothly between renting and owning. In the US this debate was supported by Fannie Mae, a government sponsored agency which financed a significant portion of owner occupied housing at that time.

In consequence, in the US and the western countries owner occupied housing started to grow in strength. This in turn required a strong development and consolidation of the banking and financial sector. The housing markets that were very regulated and local so far became international and their growth accelerated. As a by-product, the unwanted problems, well known already in the 19th

century came back to life, such as cycles and crises, which finally lead to the Global Financial Crisis. Even though significant problems occurred on the way, the housing sector and the commercial real estate sector were growing. One of the reasons was globalization which shifted the basic production to emerging markets that showed lower production costs. The economy shifted towards high-tech and services, and large cities and agglomerations emerged. Improved public transport made access to work and to leisure facilities simple. An analysis of the number of housing units per 1 000 inhabitants, as presented in Łaszek, Olszewski and Waszczuk (2017) on Eurostat data, shows a strong correlation between the level of economic development (measured by GDP per capita in PPP) and the saturation of housing for 1 313 NUTS 3 regions. This is depicted with the blue line in figure 1. We added the analysis of the largest 263 cities and found that the relation is even stronger (depicted with the red line). One can conclude that richer regions attract more people, who in turn want to have better housing conditions. There is a risk that strong income growth, combined with low interest rates will lead to a price and also construction boom. Such a situation can be observed in the biggest cities in Germany and also to some extent in the largest cities in Poland. It should be noted that Łaszek, Olszewski and Waszczuk (2017) found that even controlling for income differences and unemployment rates, Poland has a shortage of around 50 housing units per 1 000 inhabitants in relation to the EU average. Households use each possibility to improve their living conditions and any improvement of their economic situation leads to a demand boom.

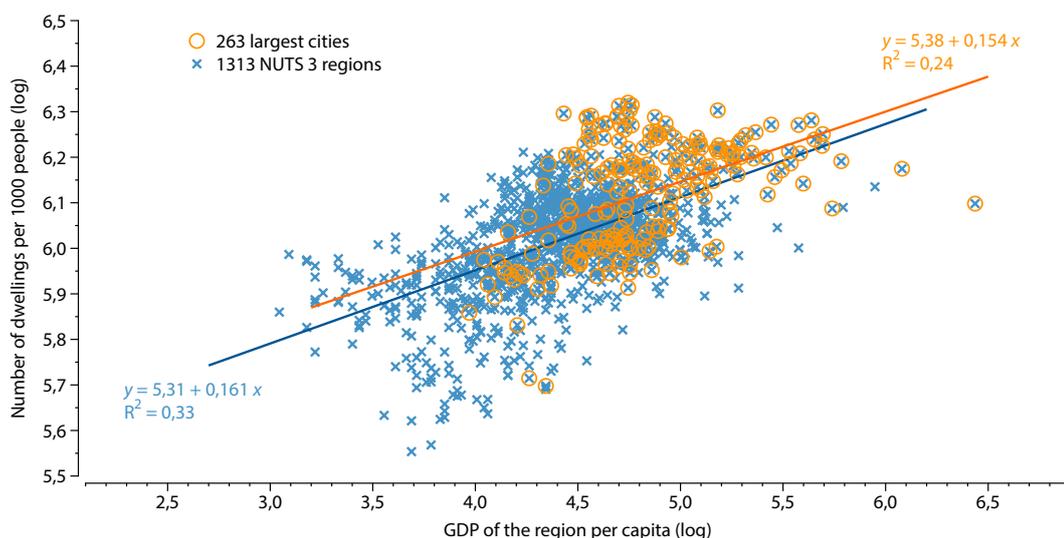


Fig. 1. Number of dwellings per 1000 people in NUTS 3 regions (Y axis, logs) and GDP of the region per person (in relation to the EU average, X axis, logs) in NUTS 3 regions of selected countries of Europe in 2011

Source: Own elaboration based on data published by Eurostat

Housing generates a stream of utility, while the commercial property and services generated therein are the first and last step in the production process. The developed economy focuses on research and development of new products and various services surrounding them, such as marketing and accounting. The basic production and even some sophisticated production is outsourced to the emerging countries. Modern commercial real estate is more than offices and shopping malls, as it also contains hospitals and recreational facilities. Most of the currently produced services require very skilled workers and give a high return to the investors and a high value added to the economy, by paying high wages and high taxes. Those returns are used for the further development of cities and agglomerations and the improvement of the real estate stock.

A good indicator of the transformation of the Polish economy is the decomposition of FDI flows. Humanicki and Olszewski (forthcoming) provide an analysis of this transformation, we just present the main facts for Poland and put them in the context of Germany, Poland's main trade partner. Germany is a highly developed country, which invests in other countries, including Poland. It is a services-oriented economy, and its continuously strong economic performance makes it a potential example which Poland could follow to improve its economic situation. The sectoral decomposition

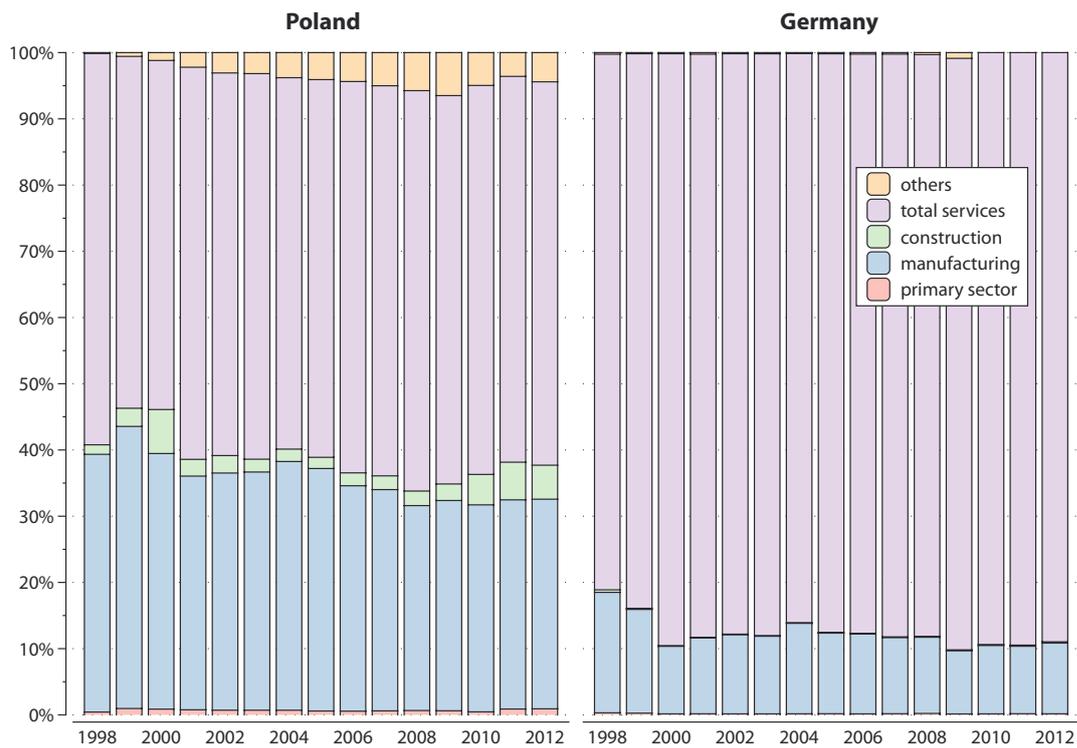


Fig. 2. Sectoral decomposition of inward FDI stock by main categories in Poland and Germany

Source: Own elaboration based on Humanicki and Olszewski (forthcoming)

Note: Data presented according to FDI Benchmark Definition 3rd edition

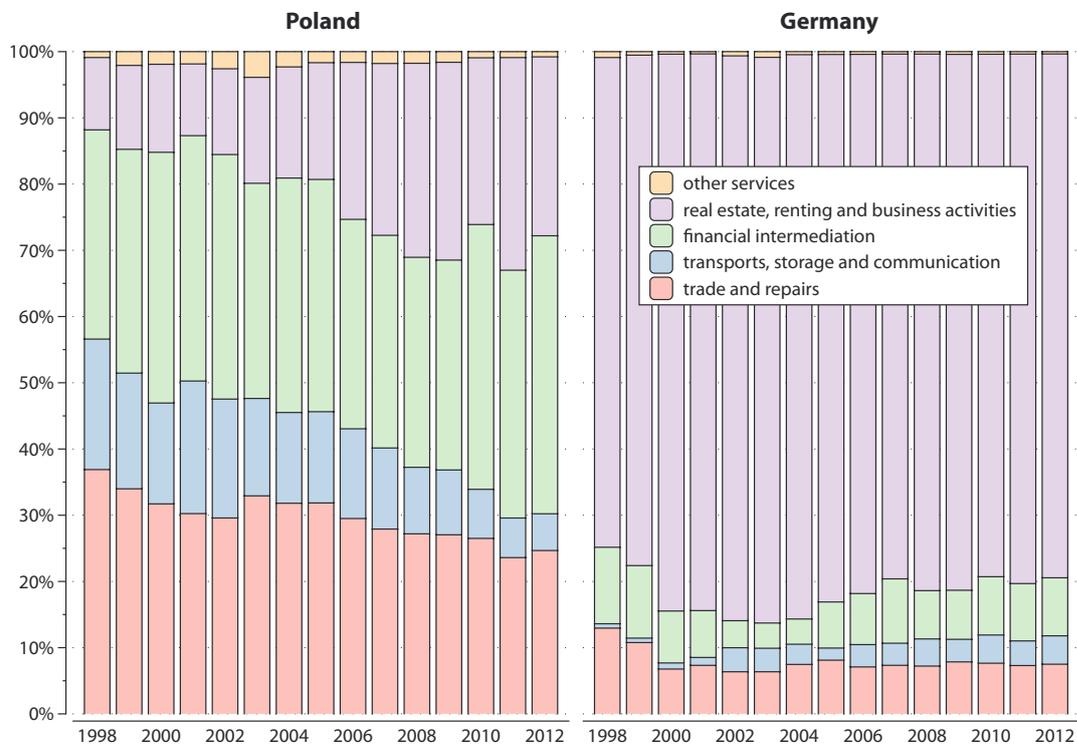


Fig. 3. Sectoral decomposition of inward FDI in the services in Poland and Germany

Source: Own elaboration based on Humanicki and Olszewski (forthcoming)

Note: Data presented according to FDI Benchmark Definition 3rd edition

of the FDI stock presented in figure 2 shows that Poland attracts FDI mainly in the services sector and also some FDI in manufacturing, while Germany attracts basically only FDI in the services sector. The decomposition of the FDI stock depends partly on the host country, but mostly on the donors of FDI. However, the host country can take policy measures which attract FDI to sectors that are important for economic growth.

At the end of 2012 financial intermediation and real estate, renting and business activities had a dominant share in the FDI stock in Poland—sectors that usually require a lot of skilled workers and also a significant amount of state-of-the-art office space.¹ This explains why there is so much office construction in Poland and if Poland will continue a pattern similar to Germany, there will be even more demand for office space. People working in such offices usually have well paid jobs, and their purchasing power increases the demand for modern shopping malls and housing.

Economic development is concentrated in large, modern agglomerations, which provide space for work, housing and leisure. Proper public and private transport simplify the lives of skilled workers that are vital for the modern economy. An analysis by Łaszek, Leszczyński and Olszewski (2017) for the 16 voivodships in Poland shows that the construction of office and retail space follows economic development quite closely. On the one hand, commercial space is a necessary capital input to economic growth, on the other hand investors enter a region when it has reached a certain level of economic development, measured by the GDP per capita in relation to the EU average. An analysis by Majka and Jankowska (2017) shows that the level of innovation and economic growth in the voivodships in Poland are strongly related and there are significant differences of this indicator among regions. On first sight one notices that the level of innovation is high in those voivodships which also have attracted a lot of new office space. An interesting question, which goes beyond the current paper would be to analyze the causality between innovativeness of regions and their office stock.

There is fierce competition for capital and skilled workers on the international and national market, which generate a high value added for the local economy. Only highly skilled workers make the very costly office buildings productive and are in turn willing to pay high prices for housing that has a given quality. Real estate is a significant part of the wealth of a nation, an important investment object, an asset for banks and the services that it generates add to the GDP. In advanced economies the housing stock accounts for around 50% of the capital stock and for around twice the GDP. The value of commercial property is around 10%–20% of the value of residential property. A large part of the real estate stock is financed with mortgages, and in many countries the value of the outstanding housing mortgages exceeded in 2013 their GDP.² Interestingly, the current construction of residential buildings amounts only to 5%–7% of the GDP per year, but during boom periods, as observed in Spain, it can reach as high as 14% of GDP.³ New construction, similarly to the whole real estate market, is subject to cycles, and its downturn leads to unemployment and economic and social problems.

However, economic growth that is based on large agglomerations and commercial real estate has a weak point, which many want to neglect when the economy is booming. We do not know how long the current, knowledge-based and service-oriented economy will last, and whether there will always be demand for modern office space. If demand for offices will decrease, it will be very hard for investors to maintain the buildings at a reasonable level and in a longer perspective there might be many completely empty office buildings. Many of such buildings are financed by banks, who obtain their money from the deposits of average citizens. In the case of over-investment and a strong drop of demand, a lot of wealth will be lost and the financial sector might be in trouble.

1. Laposa and Lizieri (2005) have found that for Warsaw FDI inflows come simultaneously with the construction of office space. Interestingly, for Budapest and Prague the authors find that office construction comes after the FDI inflows. One possible explanation for Warsaw is the fact that international firms which locate their headquarters in the CEE region there look for workers and office space at the same time.

2. See: Report on Residential Real Estate and Financial Stability in the EU. December 2015. European Systemic Risk Board, Frankfurt am Main, Germany, 2015, pages 24–25, [@:] https://www.esrb.europa.eu/pub/pdf/other/2015-12-28_ESRB_report_on_residential_real_estate_andfinancial_stability.pdf.

3. See: Residential construction—annual data, % of GDP. Data published by Eurostat at <http://ec.europa.eu/eurostat/web/products-datasets/-/tipsna50>.

1 The real estate sector as a risk factor

Besides the abovementioned long-run problems that might emerge, the real estate sector generates also short-run problems which result from its cyclical nature. The construction process is long, and supply always follows demand with a lag of at least one year in case of pre-sale contracts and around four years when finished units are considered. Besides the technological constraints, regulations about land availability and construction permits do not allow developers to build as much as they want. Moreover, as Łaszek, Olszewski and Waszczuk (2016) show, developers use their monopolistic position to sell housing at various prices. In the short run an increased demand can only lead to price growth. In the long run new firms enter the market and supply becomes more elastic, there is a risk that firms start to build too much and will generate oversupply at some point. Oversupply is also not optimal, as it generates problems for the developers and banks that finance the construction process. In the worst case many developer firms go bankrupt, which will lead to a shortage in supply in a few years. Also, fire sales of new housing can lead to general price drops, which will be problematic for banks, and in consequence for the whole economy.

We would like to point out that the short cycles can start to accumulate and accelerate. Accumulation of cycles appears when some fundamental values like income levels or demographics grow for a prolonged time. The cycle can then accelerate through the financial accelerator, which in this case works as follows. During the boom phase banks issue more mortgages and mortgages of higher value, which allows the demand to increase even faster. As banks make significant profits, they accept also higher, and riskier LTV (loan to value) limits. However, when the situation in the market starts to worsen, banks curb new lending and demand decreases further, making prices to go down even faster. A crisis in the residential sector has a stronger negative effect on the society than a crisis in the commercial real estate sector. First, the scale of residential mortgages is huge, secondly both borrowers and lenders are average people. The borrowers are usually young people who bought their first home and started their independent life. The lenders are indeed older people who have accumulated their savings in banks that issue the mortgages. When banks are in trouble, usually the savings of the population are in trouble, unless the government puts a huge amount of money into the system and saves banks before they fail. However, the fact that governments intervene and save the savings of people can make other banks to take more risks, knowing that they will be saved anyway.

Demand is subject to fluctuations because housing has a dual character — it serves as a durable good and as an investment object, which either allows one to make profits or at least is a solid place to locate our savings for the far future. The first kind of demand is affected by demographics, migrations, income and interest changes, mortgage availability, but also changing tastes and habits have an effect. For example, people that have a good job position might want to buy a larger house, and there will be more demand for such units. This demand can be easily analyzed with well-known microeconomic models. However, the second kind of demand — investment demand for owner occupied housing can behave in a very different way, especially as people are willing to pay more and to buy more housing when prices rise (see: Augustyniak et al. 2014; Łaszek, Olszewski, and Augustyniak 2017). This is irrational from a pure financial investment point of view, as one should buy low and sell high. But the mix of consumption and investment motives generates a behavior, which is rational in some sense. The one-time expense for the purchases gives a durable good that can be used for a very long time, while renters have to pay rent forever. Rents are higher than the mortgage costs, and after the mortgage is paid, the owner is the owner forever. When people need housing and its prices start to increase, they fear that prices will rise further, making the desired housing unaffordable. So, they jump ahead, take as much mortgage as possible and buy the desired housing. In this way they add to the boom, and make others follow track.

Central banks set interest rates and financial supervisory authorities set the rules according to which banks issue mortgages. Those two institutions have a direct effect on housing demand. The interest rate is important for consumption and investment demand, because it makes purchases more or less costly and for the investment purpose as an alternative cost. There is always a conflict between economic growth and financial stability. In the US cheap mortgages were granted

to nearly everybody to make the economy grow, but the price was the housing bubble and the sub-prime crisis. In the 1990s there was also the belief that markets price everything in the right way, considering all available information, and this doctrine made central banks become money printing machines. The interdependence between the real estate market and the economy was not understood well or neglected, even though history is full of negative examples, such as housing bubbles in the past that lead to banking and economic crises. The main problem in the real estate market was and is disaster myopia (Herring and Wachter 1998), that is the fact that people easily forget past problems and become scared and pessimistic once those seldom moments appear. This can explain why cycles are so similar even though each cycle is generated by different economic factors (see: Reinhart and Rogoff 2009). We will show this on the last three cycles in the Warsaw market in the next section. Interestingly, in almost every country and during almost each cycle one can observe a very nice cooperation between business and the governments, which in the long run leads to significant problems for the overall population.

The housing market was usually strongly regulated and had a local character, thus problems in this market were a sign of a very poor performance of the local politicians. Sometimes, as in the case of Sweden in the early 1990s cycles emerged when a too strongly regulated market was completely deregulated from one day to another. The commercial property market was rather small, opaque and not really in the point of interest of politicians. Globalization made housing and commercial property demand depend on international factors, while supply remained and will remain strongly local, mainly because of land availability. The local cycles became more and more connected and the result was the global financial crisis. Central banks were used to observing the situation and then trying to solve it with a huge amount of printed money. This strategy does not work, so far, and the current global financial crisis is expected by many market analysts to last for some time.

One positive aspect of the global financial crisis is the fact that central banks have understood the need to collect more data and to track and understand the market and its financing. For example the Narodowy Bank Polski analyses the market and publishes annual and quarterly reports.⁴

2 Cycles in the housing market in Poland

In this section we briefly summarize the last three housing cycles in Warsaw, which is the largest housing market in Poland. We follow quite closely our analysis presented in Łaszek, Olszewski and Augustyniak (forthcoming), where we go into more details. The main aim is to pin point that very different factors and circumstances can lead to similar cycles, which can be analyzed with a rather simple model. We will show shortly that rising income and falling mortgage costs are the main drivers of the real estate cycle.

Poland entered the 1990's and the market economy with an outdated and insufficient housing stock. Many families were living in small flats, and quite often such a family consisted of three generations. There was a huge demand for housing and rental housing was nonexistent. Even in 2017 there is still a shortage of housing units and the rental market is private, unprofessional and tiny. Over the years 1994–2017, for which we have data, the housing market underwent three cycles, which are shown in figure 4. The determinants of the cycle are presented in figure 5. Fortunately, each boom went slowly in a stagnation phase, which was followed by a fast recovery, and in consequence Poland has not experienced a bust yet. The main reason was that the construction of housing and mortgages for housing had a relatively small share in the GDP. Also, mortgages were mostly taken out by the middle class, whose income was continuously rising, even during the global financial crisis. FX mortgages created indeed some serious problems as the loan to value ratio increased when the PLN depreciated against the CHF, but the cost of such mortgages did not change

4. See: Report on the situation in the residential and commercial real estate market in Poland in 2016. Narodowy Bank Polski, Economic Analysis Department, Warsaw, 2017, [at:] http://www.nbp.pl/en/publikacje/inne/annual_report_2016.pdf; Report on housing prices and the situation in the residential and commercial real estate market in Poland in 2017 Q2. By Jacek Łaszek et al., Narodowy Bank Polski, Economic Analysis Department, September 2017, [at:] http://www.nbp.pl/en/publikacje/inne/real_estate_market_2017_Q2.pdf.

much as the Swiss central bank decreased the interest rates to nearly zero. The mortgage takers performed quite well, and the rate of nonperforming mortgages was 3% at most (for both PLN and FX mortgages), which is a very good figure in comparison to many other European countries.

As stated earlier, there is a persistent shortage of housing in Poland, and people react very quickly to factors which make housing affordable. The first cycle was observed mainly in Warsaw and it was related to the announced cut in subsidies. As people were afraid that they would miss the chance to buy cheaper, subsidized housing, they anticipated their purchase decisions. The demand increased quickly, and private firms that entered the market for the first time tried to increase production and this led to a supply boom. Interestingly, price growth was moderate and did not exceed the growth rate of earnings. The second cycle resulted from the increasing mortgage availability that was due to cheap FX mortgages and was observed in Warsaw and the 5 biggest cities. The accession to the EU and the preparations for the accession were an important step for Poland,

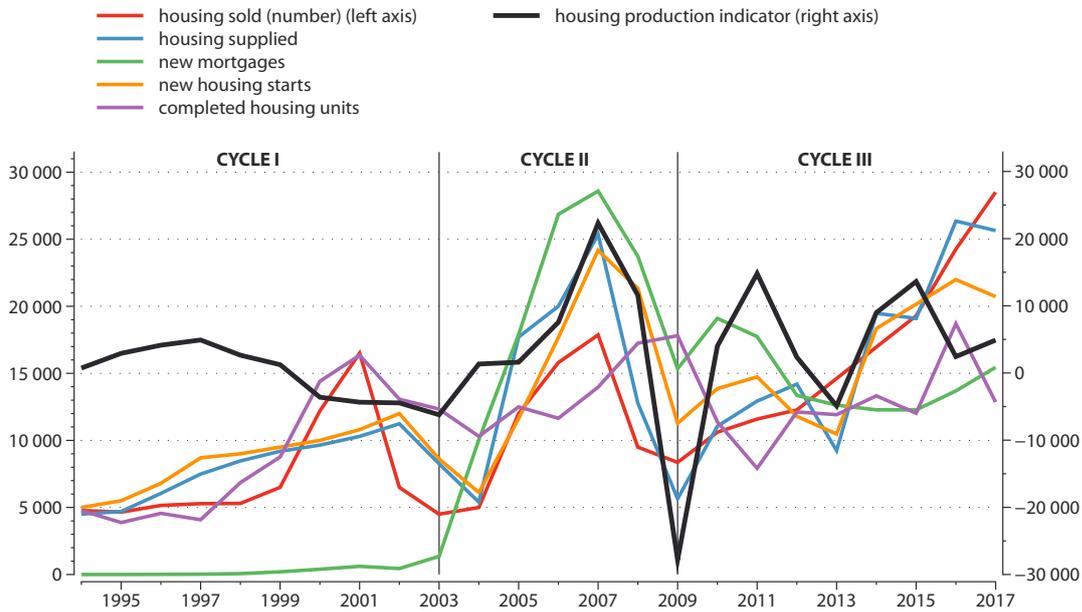


Fig. 4. Cycles in the housing market in Warsaw in 1994–2017

Source: Authors own estimates, using data from NBP, CSO, REAS, BIK

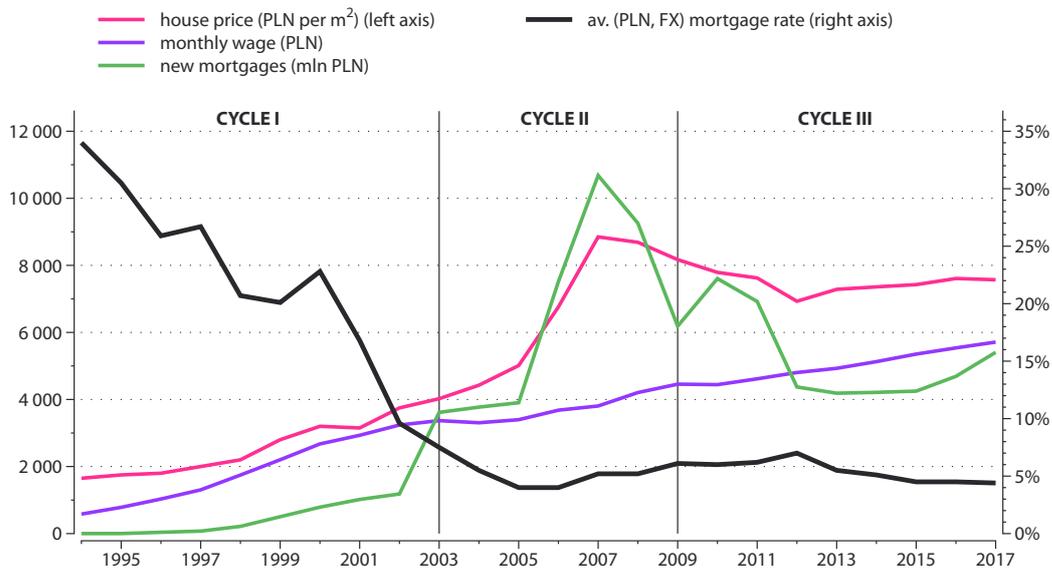


Fig. 5. Determinants of the housing cycles in Warsaw during 1994–2017

Source: Authors own estimates, using data from NBP, CSO, BIK

which helped to improve the whole property market, as Kucharska-Stasiak and Matysiak (2004) state. The reasons are manifold, but the most important ones are the economic growth, improvements in the legislation and the significant inflow of foreign capital. In that cycle prices increased drastically, and signs of a bubble creation could be observed on some markets. The third and still lasting cycle was caused by monetary policy, i.e. the low mortgage costs and low alternative costs. The developer market is now mature, and the supply side follows the demand side quite closely, and prices remain stable.

The first cycle is an example of a regulation-driven cycle. In 1999 the government announced it would cut very large construction subsidies at the end of 2001 and many people decided to buy new housing as quickly as possible. At the same time private developer companies had entered the market and increased construction activity in order to gain a significant share in the market which was dominated until then by housing cooperatives. But when the subsidies were indeed cut, demand fell quickly, as those who intended to buy housing in the near future anticipated their decision. The result was an oversupply of housing and developers ran into financial problems. In consequence, developers did not start new projects after 2001, which had also consequences for the second cycle. It is worth stressing that the first cycle was nearly credit-less, as buyers used around 70% cash, while developers financed themselves with pre-sale contracts.

The second cycle began when Poland entered the EU in 2004. The economy changed and improved very much, people were optimistic, and income was continuously rising, while the unemployment rate declined. Inflation that had two-digit figures in the late 1990s fell to normal levels, banks were eager to issue mortgages and foreign banks introduced the much cheaper FX lending. While banks gained from the FX swap operations, the mortgagors could get nearly two times the mortgage they could get under a PLN mortgage, which was the result of the low FX rates. The baby boomers of the 1980s started to marry and expected to live on their own since the beginning, thus there was a lot of demand for housing. On the supply side the situation was quite bad. The incumbent housing cooperatives were on the decline, while private developers were still suffering from the previous overbuilding cycle. Those who survived the last cycle were afraid of increasing the production of new housing, and in consequence prices started to increase, in some cases nearly by 100%. Speculative investors started to buy pre-sale contracts and to sell them later at a higher price. Increasing prices required households to take larger mortgages. In order to be able to service the monthly payments, purchasers extended the maturity of the mortgages to up to 40 years. Many foreign firms entered the market and took over Polish developer firms. Most likely, the market would have observed a classical boom—bust cycle, but the sub-prime crisis in the US and later in the western part of Europe halted the market in a relatively safe position. Banks stopped lending new mortgages in foreign currency, while the situation of past mortgage takers remained quite good. Demand went down abruptly for a short time, but the developers had accumulated enough capital to survive without the need to lower prices. As prices remained stable, at least PLN denominated loans did not create problems for the stability of the financial system. The financial supervisory authority helped to mitigate the cycle as it prohibited domestic banks from issuing FX mortgages since 2006. This prohibition was extended to all banks in 2013 for clients who receive their income in domestic currency.

The third cycle started in 2010 and it was first driven by regulations, and later by monetary policy. The government increased the limit on housing subsidies⁵ for newly constructed housing and that from the existing stock, which increased housing demand. The program was stopped in 2013, but the announcement made people anticipate their purchases, which added to the demand in the short run. Around that time the Monetary Policy Council started a series of interest rate declines which lasted until 2016. The mortgage cost declined finally to levels formerly known only from FX mortgages, and also the alternative costs of housing purchases declined. In 2014 a new subsidy scheme⁶ was launched, and initially it covered only the primary market, and was later

5. Family on their own, a subsidy on the half of the interest rate for the first 8 years of the mortgage, given that the house price is below a given price level.

6. Housing for the young, which gives from 10% to 30% of the down-payment, depending the number of children and other factors.

expanded to cover the existing stock market. Because fiscal policy and monetary policy worked in the same way, demand increased quite quickly and exceeded the levels from the previous boom by far. People started to buy housing with cash or with a significant share of cash, which can be attributed to the low deposit rates. Also, many people started to buy rental housing, as renting became quite attractive. We observe that the three cycles were driven by a structural demand for housing, which was temporarily fueled by changing regulations and the monetary policy.

Conclusions

This paper focuses on the fact that even though the real estate market is local, its development is determined by national and global factors. The supply of new buildings depends on land availability, but demand is triggered by interest rates and economic growth. Especially in the commercial property market the restructuring of the economy, which is closely related to international financial flows, has a strong effect on the growth in demand for office and retail space. This economic growth translates quite quickly in higher demand for housing and triggers a housing boom. We also show with a case study of the housing market in Warsaw that various factors, such as regulations, interest rates and income growth lead to similar cycles. We conclude that each cycle should be analyzed separately in order to understand what is behind its emergence, which should help to smooth the cycle and mitigate any negative effects such a cycle can generate for the economy. The main driver of the cycle in Poland is the significant shortage of housing units, and thus people react very strongly to any possibility of improving their living conditions. When income rises or mortgage costs decrease, people want to buy more housing. But the supply side is constrained by regulations and increasing construction costs. One possible solution to the housing demand problem is the creation of a large rental market, on which households could satisfy their needs without having to buy a flat. Most likely professional investors will act countercyclically, that is they will ask for buy-to-rent housing when demand for owner occupied housing decreases, as then house prices decline. When demand is smoother, the supply side can adjust to it and this will smooth the cycle.

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