

HOUSING MARKETS IN SELECTED EUROPEAN COUNTRIES AND THE USA

Magdalena Gostkowska-Drzewicka¹

Abstract

The aim of this article is to present the changes taking place in housing markets in selected European countries and in the USA. The basic research period covers the years 1998-2009. However, wherever availability of data allowed so, we covered with our research also the years 1963-2010. The development of domestic housing markets is determined both by specific features of local markets and by macroeconomic factors influencing the economic situation.

The availability of capital to finance investment is of primary importance for the changes taking place in housing markets. This factor can be expressed by the volume of mortgage debt related to GDP and inflation and the level of interest rates on mortgage loans.

The evaluation of the changes occurring in domestic housing markets was based on the identification of such structural characteristics as: the volume of the housing stock, the number of ready-to-use flats, the number of issued building permits, the indices of housing prices, and the number of transactions concerning purchase of flats or houses.

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Introduction

Housing real estate performs a special role in the economy. On one hand it is treated as the goods satisfying one of the most fundamental human needs, that is the need to dwell and therefore performs a social function (Kucharska-Stasiak, 2006), and on the other hand, houses and flats are the subject of the purchase transactions, inseparably connected with the category of profit. This means that a flat may be treated (A. Śliwiński and B. Śliwiński, 2006, p. 37), "(...) as a long-term capital investment made in anticipation of value growth". In this sense, housing real estate performs an economic function as well.

Kucharska-Stasiak (2006, p. 69) notices that "The market mechanism (...) has a limited scope in the real estate market, which is the result of deformation in influence of demand, supply and price". We should emphasize here first of all, supply rigidity and low flexibility of demand in a short period of time (Łaszek, 2006). We should also point out that in case of the housing real estate market, price flexibility of demand is much lower than in case of other segments of the real estate market. Moreover, the relations initiated between the buyers (creating demand in the real estate market) and sellers (who create supply in the real estate market) are shaped by both specific features of local markets and by macroeconomic factors influencing the economic situation.

Particular countries have a different economic situation, depending for example, on the speed of GDP changes, its size per capita, reflecting the purchasing power parity, and availability of capital for financing investment. The last factor, which can be expressed as the volume of

¹ Dr Magdalena Gostkowska-Drzewicka, University of Gdańsk, Faculty of Management, Chair of Enterprise Finance, ul. Armii Krajowej 101, 81-824 Sopot, mgostkowska@wzr.ug.edu.pl.

mortgage debt in relation to GDP and inflation and the level of interest rates on mortgage loans, is of primary importance for the changes taking place in housing markets. The evaluation of changes occurring in domestic housing markets should be based on the identification of such structural characteristics as: the volume of the housing stock, the number of ready-to-use flats, the number of issued building permits, the indices of housing prices, and the number of transactions concerning purchase of flats or houses. Due to the specificity and local nature of the real estate market and the influence of macroeconomic factors, we should assume that there are considerable differences in the development of real estate markets in particular countries. The presentation of the changes taking place in housing markets in selected European countries and the USA is the aim of this article. The basic research period covers the years 1998-2009, but wherever the availability of data allowed so, we covered with our research the years 1963-2010.

Economic environment as the background for the development of housing markets

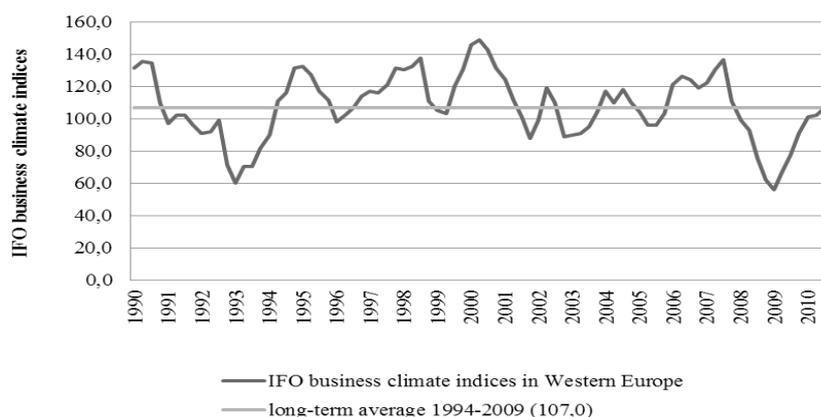
The macroeconomic environment of the housing market reflect the economic situation of the country. In Poland, similarly to other European Union countries, the economic situation is assessed by means of the so-called business climate test (Zagoździńska, 2007), whose results (business climate indices) allow us to determine the business climate cycle reflecting the state of the economy. In Western Europe² in the period 1990-2010 the values of business climate indices oscillated around a long-term average, which according to the German Center for Economic Studies IFO equals 107.0 (Figure 1).

After a deep economic recession in Western Europe in 1993 (business climate index – 60), the economic situation has been subject to numerous changes. The maximum value of business climate indices was observed in the second quarter of 2000 (148.8). However, as soon as in the fourth quarter of 2000 the business climate deteriorated, which led to economic slow-down in 2001-2003, during which we experienced two bottoms, which form the ‘W’ letter in the graph. The first bottom happened in the fourth quarter of 2001 and the second one in the first quarter of 2003. The lowering of economic activity in this period was related to the recession happening at that time in the USA.

² Western Europe covers a group of states located in the western part of Europe. This term is often used with reference to all countries of ‘old’ EU as well as Iceland, Lichtenstein, Norway and Switzerland. This means that such division reflects political and economic criteria, referring to the situation from before 1989. A different classification is used by the UN. It should be noted that this division results exclusively from geographical division. For example, UN considers only Austria, Belgium, France, Germany, Lichtenstein, Luxemburg, Monaco, Netherlands and Switzerland as Western Europe countries, whereas such countries as Spain or Italy are classified as Southern European countries together with former Yugoslavia countries. Retrieved from

^h<http://unstats.un.org/unsd/methods/m49/m49regin.htm#europe>.

Figure 1: Business climate in Western Europe in 1990-2010



Source: Own elaboration on the basis of data generated by German center for Economic Studies IFO retrieved from <http://www.cesifo-group.de/>

The economic boom started in the second half of 2005 and continued until the third quarter of 2007, when we observed the top turning point in business climate (business climate index reached then 136.4). In 2008 the economic situation deteriorated further, which was caused by the global financial crisis originated in the USA. The source of this crisis was excessive involvement of banks in primary market of mortgage loans. Common availability of capital led to ever-increasing priced of real estate. Thus debtors could always pay off their debts and even obtain another loan to purchase another house or flat. In many cases banks did not even demand any own deposits. The first symptoms of the coming crisis appeared in the middle of 2006 – the housing prices stagnated and debtors found it difficult to pay off their debts (Wydra, 2007). As a result, institutions involved in financing real estate began to experience serious problems with maintaining liquidity. In September 2008 the world learned about the bankruptcy of Lehman Brothers, one of the biggest American investment banks. The consequence of this event was dramatic breakdown of business climate, especially in the USA and Western Europe. It is worth noticing that a similar mechanism triggered financial crises, and as a result, lowered business climate indices not only in the USA, but also in other countries, such as Japan, Finland, Norway, Spain, Sweden, Ireland or Great Britain (Reinhart and Rogoff, 2007; Vihriälä, 1997). The bottom of the business cycle, measures with the IFO index, was noted in the first quarter of 2009 (Figure 1). It should be noticed that in this period the business climate index had the lowest value in Western Europe (55.8). It was deeper than the economic recession in 1993. A slight improvement observed in 2010 cannot be treated as a lasting boom, especially as we still face the problem of gigantic budget deficits and public finance debts³ and still insecure economic situation in the world, especially in Western Europe and the USA⁴. The sales of new houses

³ In 2010 the deficit in Poland was 7.1%; in Ireland – 14.3%; in Greece – 13.6%; in Great Britain – 11.5%; in Spain – 11.2%. Source: Kot, M. (2011, 30 April). *Polski deficyt budżetowy powyżej średniej unijnej*, Retrieved from www.bankier.pl.

⁴ The profitability of bonds is determined by the relation of redemption price to its market price. The fall of market price – related to mass sale of bonds by investors – causes the profitability growth of these bonds. In other words, the premium for credit risk taken by investors increases. This means that the costs of servicing debt contracted by the country while issuing bonds increases, and in extreme situations this may lead to the bankruptcy of the state. Therefore increased profitability of bonds observed in Ireland, Greece, Portugal, Spain and Italy poses a special threat to the stability of the world financial system and economy. In July 2010 the profitability of 10-year treasury

stays on a very low level there. In 2010 the number of sold new single-family houses in the USA reached the lowest level since 1963 and was 323 thousand (Figure 2). As we can see in Figure 2, lower numbers of sold houses in the USA accompanied economic recessions of 1960s, 1970s and 1980s (Reinhart and Rogoff, 2007; Iwanicz-Drozdowska, 2007). However, in none of these periods the fall was so deep and long-lasting. Currently we are observing the fifth consecutive year in which the value of this index is falling. Moreover, property prices in the USA are still decreasing⁵. This constitutes a serious threat to economic growth, as the decreasing property prices account for the difficulties with obtaining mortgage loans⁶. Thus the possibilities of de-freezing the resources that could be allocated to consumption are shrinking.

Advanced globalization of economy contributed to the intensification of the processes related to economic recession which started in 2008. However, the scale and depth of these changes in particular European countries differed, determined by specific factor influencing particular economies. This is confirmed by changes in real GDP in selected countries in 1996-2010 and the size of real GDP forecasted for 2011, shown in Figure 3.

Figure 2: Number of new houses sold in the USA in 1963 – 2010



Source: Own elaboration on the basis of data from U.S. Census Bureau, retrieved from <http://www.census.gov/cgi-bin/briefroom/BriefRm>

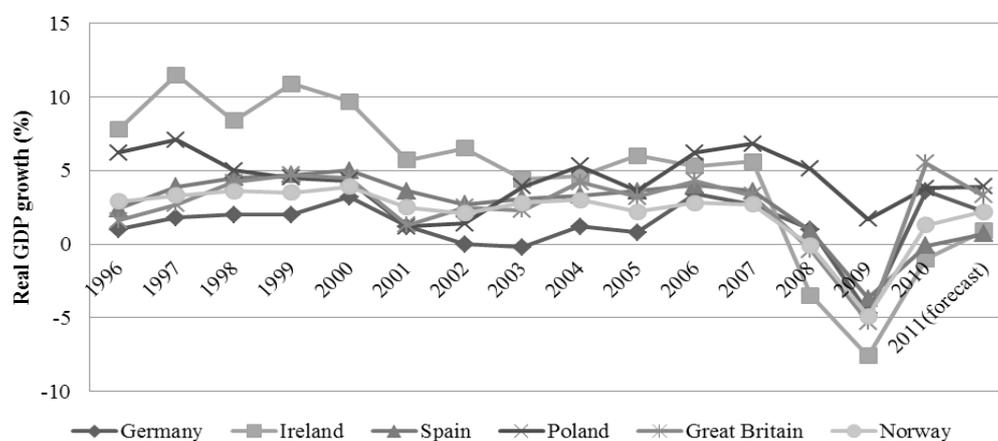
bonds in Ireland was 12.1%, in Portugal – 12.35%, Italy – 5.1% and in Greece – nearly 16%. At the same time the profitability of German bonds of the same redemption period was only 2.94%. According to the forecasts made by the European Commission in 2012, the relation of debt to GDP will reach 166% in Greece, 120% in Ireland, and around 100% in Portugal. Retrieved from www.bankier.pl.

⁵ The median of house prices in north-east part of USA decreased from 260.3 thousand \$ in August 2009 to 239.2 thousand \$ in October 2010, that is by 1.4%; in the central-east region the analogical fall was from 149.6 thousand \$ to 239.2 thousand \$, that is by 5.2%; in the south – from 155 thousand \$ to 149.5 thousand \$, that is by 2.6%; in the west from 214.7 thousand \$ to 213.6 thousand \$, that is by 4.9%; the median of the second-hand house prices for the whole USA at the end of September 2010 was 171.7 thousand \$. Retrieved from <http://www.realestateabc.com/outlook/overall.htm> on 06.11.2010; <http://www.realtor.org/>.

⁶ The mortgage loan is an obligation contracted in order to ‘de-freeze’ the capital invested in the property, the resources obtained in this way may be allocated for any purpose chosen by the investor, such as consumption. The increase in the property value causes the increase in the value of collateral and related possibilities of financing consumption with a loan (drawing capital from property). Therefore in case of falling prices – and decreasing value of collateral – the reverse process takes place. See Łaszek, J. (2007). Oddziaływanie stóp procentowych i sektora finansowego na sektor mieszkaniowy i gospodarkę. *Finansowanie Nieruchomości*, (6), 17.

In the second half of 1990s the real GDP in Germany grew regularly until 2000. In 2000-2003 the economic situation in this country deteriorated, leading to recession in 2003. In the next years, 2004-2007, the country again experienced a period of GDP growth of over 3%. Starting from 2008, first a strong economic slow-down was felt, which in 2009 developed into deep recession. The real GDP decreased in this period by -4,7%. In 2010 the country experienced again the GDP growth of 3.6%. The economic situation in Poland, due to immediate proximity, is connected to the business climate in Germany. This coincidence can be observed analyzing the shape of the curves depicting the real GDP changes. After the period of economic recession at the beginning of 1990s, the business climate was gradually improving, however, this period did not last long. In 1997, a gradual deterioration of business climate started and accelerated in 2000, leading in 2001-2002 to significant economic slow-down. Then, after five years of real GDP growth, the top turning point in business climate was reached in 2007. However, contrary to other countries, Poland did not experience any recession in the next years. We only felt some kind of economic slow-down, which was reflected in 2009 in the real GDP growth of only 1.7%. In 2010 this growth reached 3.8%. In Ireland in the second half of 1990s we could experience the ‘economic miracle’, as the real GDP growth nearly reached 10%. However, in 2001, real GDP decreased by 5.7% and in the next years remained on a similar level. The situation dramatically deteriorated in 2009, when the country entered the economic recession lasting three years. In this period, real GDP fall was -3.5% in 2008 and respectively -7,6% and -1% in 2009 and 2010. In Spain in the second half of 1990s and in 2000, there was a dynamic growth of real GDP. However, in 2001, a slight slow-down of that trend was observed. High growth of real GDP amounting to 4% was recorded in 2006, and then the downward trend could be observed, which in 2009-2010 led to economic recession. In this period real GDP contracted by respectively: -3.7% and -0.1%.

Figure 3: Real GDP changes in selected European countries in 1996-2011 (previous year=100)



Source: Own elaboration on the basis of Eurostat data retrieved from <http://epp.eurostat.ec.europa.eu/>

The situation in Great Britain in 1996-2007 was characterized by stable growth and slight fluctuations of real GDP. In this period, the lowest level of this indicator was observed in 2002 (2.1%), and the highest – 3.9%, in 2000. However, the business climate in Great Britain in 2008-2009 deteriorated significantly. In this period real GDP fell by respectively -0,1% and -4,9%. In 2010 the country recorded the economic growth of 2.2% again.

In 1996-2007 the real GDP growth in Norway was very high, exceeding 5%. However, in 1998 the dynamics of change began to slow down. The lowest real GDP growth of merely 1% was recorded in this country in 2003. In 2004-2007 GDP grew on average by 4% annually. However, in the next year a serious economic slow-down was observed, leading in 2009 to economic recession. Real GDP contracted by -1,4%. In 2010 the country saw a slight improvement of business climate. As the forecasts for 2011 indicate, the economic situation in Norway and in all the other analyzed countries is expected to improve (Figure 3).

In 1996-2010 business climate in all analyzed Western European countries experienced changes, while the pace of these changes differed for particular countries. However, the most difficult period of economic situation for these countries was 2008-2009. These circumstances affected the financial state of the investors operating in real estate markets, including the housing markets.

The markets of mortgage loans for housing purposes in selected countries

Investment in real estate, including housing real estate, is characterized by high capital intensity, which is related to considerable share of loan capital in the structure of their financing. Thus private investors aiming at satisfying their dwelling needs, require appropriate credit rating. This category is closely related to the incomes obtained by people. A comparable measure which could reflect the level of wealth of inhabitants of particular countries is GDP per capita in Purchasing Power Standards, show in Figure 4.

In Poland in 1995-2009 GDP per capita expressed in purchasing power standards showed some growth trends. However, as we can see in Figure 4, the level of this indicator ranged from 43% (in 1995) to 61% (in 2004) of the average purchasing power for 27 EU countries. In comparison, in 2009 the same indicator in Western European countries ranged from 104% in Spain to as much as 271% in Luxemburg. In the same year the GDP expressed in purchasing power of its inhabitants in the USA exceeded the average value of the indicator for 27 EU countries by 47% (Figure 4). We can assume then that the possibilities of investing in housing real estate in developed countries are much higher than in Poland or other Central and Eastern European countries. This is reflected in the index of mortgage loan for housing purposes to GDP in particular countries (Table 1).

Figure 4: GDP per capita expressed in purchasing power standards for selected European countries and the USA in 1995-2009 (average purchasing power for 27 EU countries=100)



Source: Own elaboration on the basis of Eurostat data retrieved from <http://epp.eurostat.ec.europa.eu/>

In 1998 – 2008 the ratio of residential mortgage debt to GDP grew systematically. However, its value differed considerably in particular countries. The lowest value was observed in Poland and Latvia. Firm growth trends of this indicator in these countries could be observed only after the accession of these countries into the EU, that is since 2004 (Table 1).

Table 1: Residential mortgage debt to GDP ratio in selected European countries and the USA in 1998-2009 (%)

| No | Country | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|-----|---------------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|
| 1. | Finland | 29.5 | 30.3 | 30.2 | 31.0 | 32.6 | 35.0 | 38.2 | 42.0 | 43.6 | 45.7 | 47.5 | 58.0 |
| 2. | Spain | 23.8 | 26.7 | 29.9 | 32.5 | 35.9 | 40.0 | 45.7 | 52.3 | 58.1 | 61.4 | 62.0 | 64.6 |
| 3. | Holland | 60.8 | 60.7 | 68.2 | 73.0 | 88.3 | 93.2 | 94.9 | 94.3 | 95.4 | 98.6 | 99.1 | 105.6 |
| 4. | Ireland | 26.5 | 28.9 | 31.3 | 32.8 | 36.3 | 42.7 | 52.2 | 61.4 | 70.1 | 75.3 | 80.0 | 90,3 |
| 5. | Iceland | 49.4 | 53.6 | 56.7 | 59.4 | 61.1 | 66.2 | 71.0 | 80.8 | 75.5 | 121.0 | 129.0 | . |
| 6. | Luxemburg | 22.3 | 22.4 | 25.0 | 27.3 | 27.6 | 30.6 | 32.6 | 34.0 | 33.5 | 37.0 | 37.9 | 42.0 |
| 7. | Latvia | . | 0.7 | 1.6 | 2.4 | 4.1 | 7.6 | 11.4 | 19.3 | 28.9 | 33.7 | 31.2 | 36.6 |
| 8. | Germany | 51.9 | 55.6 | 53.2 | 53.1 | 53.2 | 53.5 | 52.4 | 51.9 | 51.3 | 47.7 | 46.1 | 47.6 |
| 9. | Norway | 39.6 | 41.6 | 39.1 | 42.1 | 47.6 | 52.0 | 53.3 | 51.6 | 52.45 | 53.3 | 55.7 | 70.8 |
| 10. | Poland | 1.5 | 1.7 | 2.1 | 2.7 | 3.4 | 4.5 | 4.7 | 6.0 | 8.3 | 11.7 | 15.6 | 18.2 |
| 11. | USA | 52.7 | 54.8 | 56.4 | 60.5 | 66.1 | 71.1 | 76.1 | 81.1 | 84.89 | 86.7 | 86.2 | 81.4 |
| 12. | Great Britain | 50.6 | 54.2 | 55.9 | 58.9 | 63.9 | 69.3 | 74.1 | 78.4 | 83.1 | 86.3 | 80.5 | 87.6 |

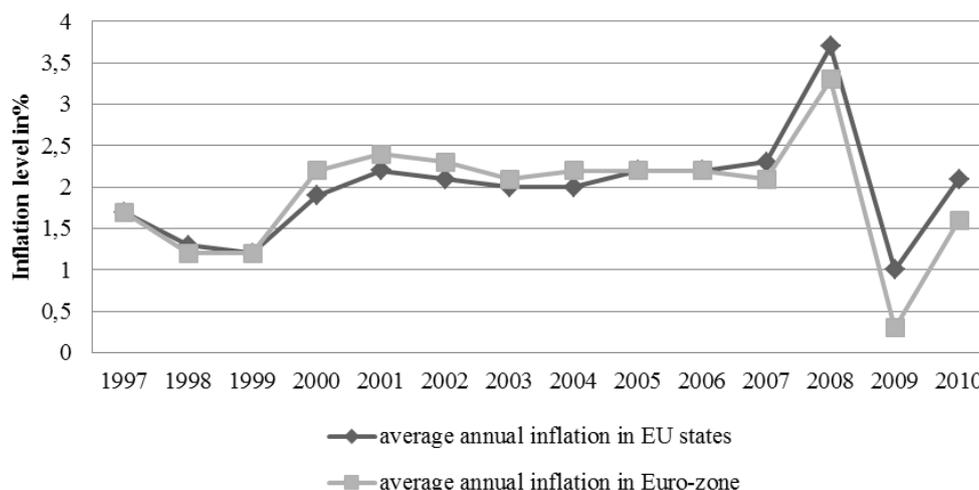
Source: European Mortgage Federation Hypostat. (2010). A Review of Europe's Mortgage and Housing Markets, Tab. 1. Residential mortgage debt to GDP Ratio%, p.70

In highly developed European countries as well as in the USA, the residential mortgage debt to GDP ratio is on the high level. For example, in the analyzed period, for such countries as: Luxemburg, Finland, Germany, Norway and Spain, residential mortgage debt ranged from 20% to 70% of the GDP value. In Ireland, Great Britain, Netherlands, Iceland and USA the debt ratio was even higher. It should be noted that in 2008 in Iceland, the record value of all residential mortgage debts was observed, amounting to 129% of the country's GDP (Table 1). This clearly demonstrates the degree of the banking sector's involvement in financing residential properties, which, coupled with liberal loan policy became – as I have already noticed – one of the primary causes of the global financial crisis.

Of significance here – as the measure of cost and residential mortgage loan availability – is also the level of interest rates. We should pay attention to the relation between this parameter and the size of inflation. Periods of low inflation encourage the development of the real estate market, as interest rates on loans decrease. On the other hand, in case of high inflation we may expect increased property prices, as they often constitute an investment protecting capital from losing value. However, in the long run, low inflation on a stable level is more beneficial for the real estate market, as it offers easy access to financing from loans (Bryx, 2006). Such situation was observed for a long time both in the European Union states and in the Euro-zone (Figure 5).

At the end of the 20th century the EU states and the Euro-zone observed a short-term decrease of the consumption goods and services ratio to slightly above 1%. In 2000 an eight-year period of stable inflation ranging from 2.0% to 2.4% began. At the same time the interest rates on mortgage loans initially was systematically decreasing and then remained on the low level for some time (Figure 6).

Figure 5: Average annual inflation in the European Union states and in the Euro-zone in 1997-2010 (%)



Source: Own elaboration on the basis of Eurostat data retrieved from <http://epp.eurostat.ec.europa.eu/>

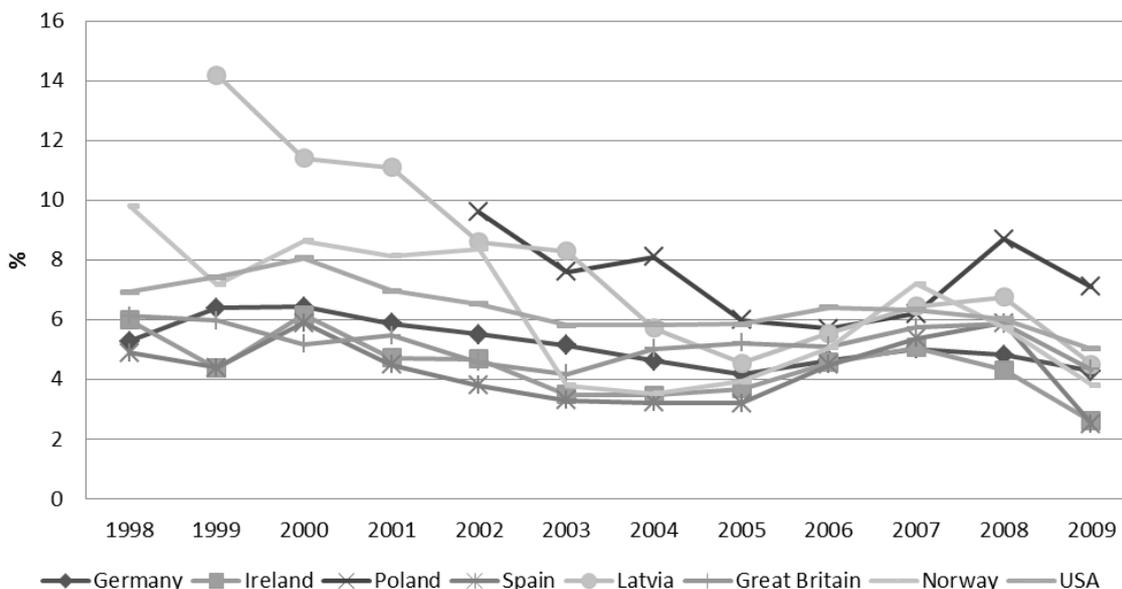
At the end of the 1990s the level of interest rates on mortgage loans fluctuated slightly both in European countries and in the USA. However, starting from 2000, mortgage loans were becoming cheaper and banks intensified their credit activities. The low level of interest rates, notable especially in 2004–2006 triggered the activity of the investors operating in the residential real estate market. In that period the supply of new houses and flats increased considerably and their prices grew, too⁷. However, in answer to the signals confirming the ‘overheating’ of the economy, central banks in all countries started the process of increasing basic interest rates. As a result, in 2007 mortgage loans were becoming more expensive. As a result, the credit activities of the banks were decreased. This triggered a number of changes in the housing real estate markets in the European countries and in the USA. First of all, property prices declined, as well as the number of transactions and later the supply of properties.

In 2009, in all analyzed countries, some actions were taken aimed at livening the economy. As a result of lowering interest rates the cost of mortgage loans decreased significantly, which should constitute an impulse for making investment decisions concerning the housing real estate market, and also – which is particularly important – which should positively influence the investors’ ability to repay their former obligations.

It should also be noted that in developed countries the interest rates level is generally much lower than in Poland (Figure 6). This means that mortgage loans in Poland are relatively more expensive and this may lead to a slower development of the real estate market.

⁷ See also Table 6 and Figure 7.

Figure 6: Average interest rates on mortgage loans in selected European countries and in the USA in 1998 – 2009



Source: European Mortgage Federation Hypostat. (2010). *A Review of Europe's Mortgage and Housing Markets*, Tab. 20. Representative interest rates on new mortgage loans, p. 89

The development of housing markets in selected countries in light of available statistics

An essential ratio reflecting the development of the housing market is the size of the dwelling stock⁸ expressed in the relation of the number of people per one dwelling.⁹ As we can see in Table 2, the number of people per one dwelling has been decreasing systematically in all compared countries. The lowest level of the ratio, from 2.04 in 1998 to 1.71 in 2009, was observed in Spain. In this period, there were slightly more people per one dwelling in Germany (from 2.19 in 1998 to 2.04 in 2009). In Poland the number of people per one dwelling was the highest among all compared countries. In 1998 it was 3.3 people and in 2009 it fell to 2.83 people. A systematic decline in the number of people per one dwelling proves that the dwelling stock has been increasing in particular countries. However, the global financial crisis that began in 2008 significantly slowed down the speed of the residential estate market development. This thesis is confirmed by the data concerning the dynamics of changes in the number of ready-to-use dwellings in selected European countries and in the USA in 1999-2009 (Table 3).

⁸ The stock is the level of a variable at a particular moment, which means that it does not have time dimension, as opposite to the flow, which expresses the change per time unit. Samuelson, A. (2004). *Ekonomia*, Vol. I, Warszawa: Państwowe Wydawnictwo Naukowe PWN, p. 213.

⁹ This ratio is only quantitative. It does not reflect qualitative features of dwellings, such as their size or technical state. For example, in Poland at the beginning of the 21st century around 600-800 thousand dwellings were classified for demolishing. Moreover, dwellings in western countries are larger and better equipped. Bryx, M., Matkowski, R. (2002). *Inwestycje w nieruchomości*. Warszawa: Wydawnictwo Poltex, p. 56.

Table 2: Number of people per one dwelling in selected European countries and in the USA in 1998-2009

| No | Country | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|----|---------------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | Germany | 2.19 | 2.16 | 2.14 | 2,13 | 2,12 | 2,11 | 2,10 | 2,09 | 2,07 | 2,06 | 2,05 | 2,04 |
| 2 | Ireland | 2.78 | 2.73 | 2.69 | 2,65 | 2,59 | 2,52 | 2,44 | 2,37 | 2,33 | 2,31 | 2,28 | 2,27 |
| 3 | Poland | 3.30 | 3.28 | 3.26 | 3,20 | 3,25 | 3,03 | 2,99 | 2,97 | 2,94 | 2,90 | 2,86 | 2,83 |
| 4 | Spain | 2.04 | 2.01 | 1.97 | 1,92 | 1,88 | 1,86 | 1,83 | 1,80 | 1,78 | 1,77 | 1,73 | 1,71 |
| 5 | Great Britain | 2.34 | 2.33 | 2.33 | 2,32 | 2,31 | 2,30 | 2,30 | 2,29 | 2,29 | 2,28 | . | . |
| 6 | Norway | 2.32 | 2.31 | 2.31 | 2,30 | 2,28 | 2,27 | 2,26 | 2,24 | . | 2,22 | 2,21 | 2,22 |
| 7 | USA | . | . | 2.43 | 2,42 | 2,41 | 2,40 | 2,39 | 2,38 | 2,36 | 2,36 | 2,36 | 2,36 |

Source: Own elaboration, on the basis of: European Mortgage Federation Hypostat. (2010). *A Review of Europe's Mortgage and Housing Markets*, Tab. 5. Total Dwelling Stock, thousand units, p. 74; Tab. 29. Population, thousand inhabitants, p. 98; data from the Local Data bank, Central Statistical Office, Retrieved from www.stat.gov.pl

In 1999-2009 the dynamics of the number of housing completions fluctuated significantly, with clear upward trends visible only in Ireland and Spain (1999-2007). Other countries have seen this ratio fall (1999-2006). In Germany, except for 2004 and 2006, the number of housing completions experienced negative growth. In Poland, except for 2002, 2004 and 2009, the number of housing completions increased. The highest annual pace of housing completions in 1999-2009 was observed in Poland and Spain.

Table 3: Dynamics of changes in the number of housing completions in selected European countries and in the USA in 1999-2009 (previous year = 100)

| No | Country | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | Annual average |
|----|---------------|------|------|------|------|------|------|------|------|------|------|------|----------------|
| 1 | Germany | 94 | 89 | 77 | 89 | 93 | 104 | 87 | 103 | 84 | 83 | 90 | 90 |
| 2 | Ireland | 110 | 107 | 106 | 110 | 119 | 112 | 105 | 115 | 84 | 66 | 51 | 96 |
| 3 | Poland | 103 | 107 | 121 | 92 | 166 | 67 | 105 | 101 | 116 | 123 | 97 | 107 |
| 4 | Spain | 117 | 114 | 100 | 117 | 108 | 108 | 106 | 112 | 110 | 96 | 63 | 103 |
| 5 | Great Britain | 101 | 97 | 98 | 105 | 105 | 107 | 103 | 102 | 106 | 81 | . | 100 |
| 6 | Norway | 96 | 95 | 117 | 94 | 98 | 111 | 126 | 101 | 101 | 95 | 76 | 100 |
| 7 | USA | 109 | 98 | 100 | 105 | 102 | 110 | 105 | 102 | 76 | 75 | 71 | 95 |

Source: Own elaboration, on the basis of: European Mortgage Federation Hypostat. (2010). *A Review of Europe's Mortgage and Housing Markets*, tab. 7. Housing Completions, p. 76

In 2007 the first symptoms of changing business climate were noticed in the residential real estate markets. Initially this situation developed in the USA, Ireland and Germany. In 2008 only in Poland the number of housing completions grew. In 2009 all analyzed countries experienced lower supply of new residential properties, especially in Ireland and Spain. In the future the number of housing completions will continue to decrease as we can observe a lower number of issued building permits (Table 4).

Table 4: Dynamics of the number of issued building permits in selected European countries and in the USA in 1999-2009 (previous year = 100)

| No | Country | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | Annual average |
|----|---------|------|------|------|------|------|------|------|------|------|------|------|----------------|
| 1 | Germany | 92 | 80 | 83 | 94 | 108 | 90 | 90 | 103 | 74 | 96 | 102 | 0,91 |
| 2 | Ireland | 141 | 112 | 90 | 84 | 106 | 131 | 92 | 090 | 98 | 79 | 59 | 0,96 |
| 3 | Poland | 136 | 66 | 16 | 48 | 156 | 173 | 109 | 139 | 147 | 94 | 75 | 1,07 |
| 4 | Spain | 120 | 04 | 93 | 105 | 121 | 108 | 106 | 119 | 75 | 41 | 42 | 0,88 |
| 6 | Sweden | 111 | 21 | 19 | 85 | 135 | 112 | 121 | 132 | 64 | 83 | 84 | 1,04 |
| 7 | USA | 112 | 103 | 96 | 110 | 108 | 109 | 101 | 104 | 85 | 76 | 65 | 0,96 |

Source: Own elaboration, on the basis of: European Mortgage Federation Hypostat. (2010). A Review of Europe's Mortgage and Housing Markets, Tab. 8. Building Permits, p. 77

In 1999-2002 the dynamics of building permits issued in all analyzed countries changed a lot. In the period of 2003-2006 there was a clearly visible growth trend, which was related to a good business climate. This trend was reversed in 2007, when in all analyzed countries but Poland the number of issued building permits decreased compared to the previous year. Years 2008-2009 brought continuation of the downward trend, visible especially in Spain or Ireland. We should pay attention to the continuing fall of the building permit ratio in the USA, which leads to shrinking supply of residential properties. In Germany, in contrast to other countries, in 2009 a 2% growth of this ratio was observed. Both in Europe and in the USA, the number of transactions concerning purchase of dwellings can be observed (Table 5).

Table 5: Dynamics of the number of transactions concerning purchase of dwellings in selected European countries and in the USA in 2005-2009 (previous year = 100)

| No | Country | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|----|---------|------|------|------|------|------|------|
| 1 | Germany | - | 114 | 88 | 103 | 100 | 96 |
| 2 | Ireland | - | 106 | 100 | 76 | 64 | 47 |
| 3 | Greece | - | 130 | 80 | 97 | 94 | 60 |
| 4 | Spain | - | 106 | 106 | 88 | 67 | 82 |
| 6 | Sweden | - | 105 | 99 | 109 | 89 | 90 |
| 7 | Norway | - | 106 | 101 | 102 | 91 | 100 |
| 8 | USA | - | 105 | 90 | 085 | 84 | 103 |

Source: Own elaboration, on the basis of: European Mortgage Federation Hypostat. (2010). A Review of Europe's Mortgage and Housing Markets, Tab. 9. Number of Transactions, p. 78

As we can see from the data in Table 5, the first symptoms of the recession in the residential real estate market could be observed as early as in 2006. In this period, in some countries, such as the USA, the dynamics of dwelling purchase transactions slowed down. In the next years the downward trend continued, with varied intensity, in all analyzed countries. It is worth noticing that in 2009 there was a 3% increase in the number of dwelling purchase transactions in the USA, However, the number of new houses sold (that is primary market

transactions) has been decreasing (Figure 2), which indicates unfavorable changes taking place in the primary housing market in the USA¹⁰.

A significant indicator reflecting the changes that the residential estate markets have been subjected to in particular countries, are the changes in prices of dwellings compared to previous years. As the data from Table 6 show, the trends shaping the prices of dwellings in particular countries are varied and considerably divert from the level of the consumption goods and services index. Among the analyzed domestic markets of residential real estate, the German market showed the lowest changeability. In 1998 – 2009 the prices of dwellings in Germany were subject to cyclical increases and decreases, but the growth trend of the prices, above the inflation rate, was preserved. Moreover, in the analyzed period, the price indices in primary and secondary residential real estate markets were shaped differently. The prices of new properties rose by over 5% while the prices of second-hand dwellings fell by around 5% (Gostkowska-Drzewicka and Bartyzel, 2010), which was presented in Table 6.

The greatest variability of prices could be observed in the Irish dwelling market, which is confirmed by the variability coefficient reaching 13.8%. There are two discernible trends in this country. In 1998-2006 dwelling prices grew above the inflation rate, whereas in 2007 – 2009 there was a dramatic fall in prices. Also inflation was systematically falling, which resulted in deflation of -1.7% in 2009. Very similar, but not so intense trends, could be observed in Spain, United States and Great Britain, though in the last country there was no deflation (Table 6).

The residential property prices in Poland in 1998 – 2009 fluctuated cyclically, their changeability being relatively high (standard deviation of 9.9%). Since 1998 the price changes dynamics gradually slowed down. In 2002 – 2003 the prices of dwellings were falling, which was connected with the economic slow-down taking place then. In 2004 prices rose by 4.6%, which was attributed to Poland's accession to the European Union. However, in 2005, prices dipped slightly, by 0.8%. In 2006 the trend was reversed. The economic revival transformed in the 'boom' unprecedented in the real estate market in the past 20 years. This state continued till the middle of 2007, when the peak of the boom was observed. This is reflected in the dynamically growing dwelling prices, which went up by 31.7%. In 2008 prices did not grow so rapidly, as they went up by only 9.2%, while in 2009 the prices declined by 3.6% (Table 6).

In the analyzed period, there were certain relations between the inflation rate and the index of changing house prices. The linear trend line drawn for the dynamics of house price changes in 1998 – 2009 indicates that there is a slight upward trend. On the other hand, the linear trend for the inflation rate indicates its constant decline (Figure 7).

¹⁰ Declining activity in the primary residential estate market segment caused the dynamics of economic growth to slow down. This results from lower number of orders won by construction companies, lower demand for construction materials and products needed for equipping the completed houses and flats. Consequently, these changes inevitably lead to lower current consumption, which has great impact on GDP value.

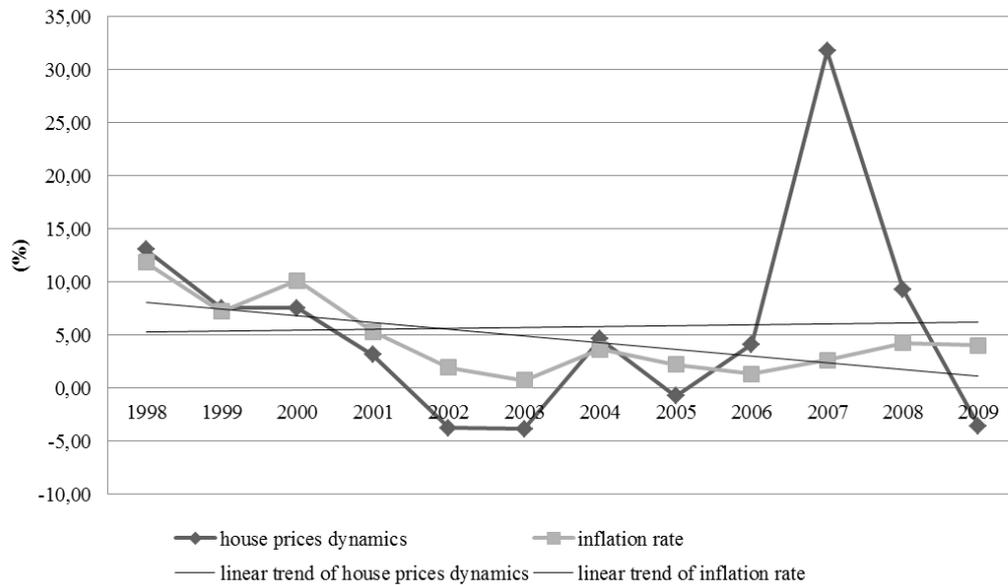
Table 6: Dynamics of housing property prices and inflation rate in selected European countries and in the USA in 1998-2009
(current prices, previous year = 100)

| No | Item | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | s* |
|----------------------|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|-------|-------------|
| Poland | | | | | | | | | | | | | | |
| 1 | Index of changing house prices | 13.0 | 7.5 | 7.5 | 3.1 | -3.8 | -3.9 | 4.6 | -0.8 | 4.1 | 31.7 | 9.2 | -3.6 | 9.9 |
| | Inflation rate | 11.8 | 7.2 | 10.1 | 5.3 | 1.9 | 0.7 | 3.6 | 2.2 | 1.3 | 2.6 | 4.2 | 4.0 | |
| Ireland | | | | | | | | | | | | | | |
| 2 | Index of changing house prices | 28.8 | 20.4 | 21.3 | 4.4 | 13.3 | 13.7 | 8.6 | 9.3 | 11.8 | -7.3 | -9.1 | -18.5 | 13.8 |
| | Inflation rate | 2.1 | 2.5 | 5.3 | 4.0 | 4.7 | 4.0 | 2.3 | 2.2 | 2.7 | 2.9 | 3.1 | -1.7 | |
| Spain | | | | | | | | | | | | | | |
| 3 | Index of changing house prices | 7.7 | 9.6 | 7.7 | 11.1 | 17.3 | 18.5 | 17.2 | 12.8 | 9.1 | 4.8 | -3.2 | -6.3 | 7.7 |
| | Inflation rate | 1.8 | 2.2 | 3.5 | 2.8 | 3.6 | 3.1 | 3.1 | 3.4 | 3.6 | 2.8 | 4.1 | -0.2 | |
| Germany | | | | | | | | | | | | | | |
| 4 | Index of changing house prices | -1.0 | 1.0 | 1.0 | 1.0 | 0.0 | -1.0 | 0.6 | 3.6 | 0.3 | -0.3 | 4.3 | -1.3 | 1.7 |
| | Inflation rate | 0.6 | 0.6 | 1.4 | 1.9 | 1.4 | 1.0 | 1.8 | 1.9 | 1.8 | 2.3 | 2.8 | 0.2 | |
| Great Britain | | | | | | | | | | | | | | |
| 5 | Index of changing house prices | 10.9 | 11.5 | 14.3 | 8.4 | 17.0 | 15.7 | 11.8 | 5.5 | 6.3 | 10.9 | -0.9 | -7.8 | 7.1 |
| | Inflation rate | 1.6 | 1.3 | 0.8 | 1.2 | 1.3 | 1.4 | 1.3 | 2.1 | 2.3 | 2.3 | 3.6 | 2.2 | |
| USA | | | | | | | | | | | | | | |
| 6 | Index of changing house prices | 5.4 | 3.9 | 4.1 | 6.6 | 7.8 | 8.4 | 9.3 | 12.4 | 1.0 | -1.3 | -9.5 | -12.4 | 7.5 |
| | Inflation rate | 1.6 | 2.2 | 3.4 | 2.8 | 1.6 | 2.3 | 2.7 | 3.4 | 3.2 | 2.8 | 3.8 | -0.4 | |

*s – standard deviation

Source: Own elaboration, on the basis of: European Mortgage Federation Hypostat. (2010). *A Review of Europe's Mortgage and Housing Markets*, Tab. 11. *Nominal House Prices, annual change, %*, p. 80; *Annual average rate of change In Harmonized Indices of Consumer Prices (HICPs)*, Retrieved from <http://epp.eurostat.ec.europa.eu/>; *Zagregowane wskaźniki waloryzacyjne ZWW I półrocze 2006*, Zeszyt 22/2006 (970), (Ośrodek Wdrożeń Ekonomiczno – Organizacyjnych Budownictwa PROMOCJA 2006), Warszawa, p. 106; *Zagregowane wskaźniki waloryzacyjne ZWW I kwartał 2011*, Zeszyt 18/2011 (1271), (Ośrodek Wdrożeń Ekonomiczno – Organizacyjnych Budownictwa PROMOCJA 2011), Warszawa, p. 237

Figure 7: Trends in house price change dynamics and inflation rate in Poland in 1998-2009



Source: Own elaboration on the basis of data from Table 6

Conclusions

The residential estate markets in selected countries differ considerably due to a number of reasons. Firstly, due to the differences in the wealth of particular societies. Because of this, the possibilities of investing in housing properties in developed countries are much bigger than in Poland or other Central and Eastern Europe. This is confirmed by the ratio of residential mortgage debt to GDP, which in Western European countries and in the USA is on a much higher level than in Poland or Latvia. It should also be noted that in developed countries interest rates are generally on a much lower level than in Poland, which determines the relatively higher costs of obtained capital for financing investment in property.

Secondly, in 1999-2007 in most real estate markets the supply of new houses increased. The lower number of completed houses, initially noticed in 2007 in few countries, such as Ireland or the USA, was a kind of a harbinger of global reversal of the present development trends. In 2010-2011 the supply of new houses will still shrink due to the lower numbers of the issued building permits. Since 2006, in most countries the number of house or flat purchase transactions has been decreasing as well.

Thirdly, considerable differentiation of particular markets is reflected in the dynamics of house price changes. In 1998-2009 the prices of residential real estate in Germany fluctuated cyclically, though the trend was that the prices grew above the inflation rate. Similarly, in Ireland in 1998-2006 the prices of houses grew faster than inflation. On the other hand, in 2007-2009 there was a dramatic fall in the prices of houses and of inflation, which transformed into deflation in 2009. Similar, though less intense change trends were observed in the real estate markets of Spain, USA and Great Britain. In Poland, however, in 1998-2009 the prices of houses and flats changed a lot, the highest growth of 31.7% was observed in 2007. In the next years, that is in 2008 and 2009, with a relatively steady level of inflation, the prices of these properties were falling. However, the long-term trend line determined for the dynamics of their change indicates that there is a slight upward trend of the prices and a steady downward trend of inflation.

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