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The Narodowy Bank Polski Workshop: Recent trends in the real estate market and its analysis – 2015 edition

Volume 1



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Overview of the papers and topics covered

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The Narodowy Bank Polski organized during November 5-6, 2015 for the second time an international workshop to discuss current issues in the field of real estate analysis from the central bank's point of view. The development of residential real estate prices as well as commercial real estate prices and real estate financing were also covered during the workshop. The workshop was aimed at researchers who work in academia, private firms and central banks. The workshop focused on the following topics:

- Real estate finance, fiscal and monetary policy and the macroeconomic and financial stability – analysis and the monitoring of real estate indicators,
- Modeling of real estate cycles (demand and supply),
- The development of property prices, its modeling and analysis.

The workshop was organized by Jacek Łaszek, Hanna Augustyniak, Krzysztof Olszewski and Joanna Waszczuk. **Piotr Szpunar** (Narodowy Bank Polski), **Józef Hegedüs** (Metropolitan Research Institute), **Christophe André** (Organisation for Economic Cooperation and Development), **Hanna Augustyniak**, **Jacek Łaszek** (Narodowy Bank Polski), **Lúðvík Elíasson** (Seðlabanki Íslands), **Martin Lux** (Institute of Sociology, Czech Academy of Sciences), **Mick Silver** (International Monetary Fund) and **Michela Scatigna**, **Magdalena Erdem** (Bank for International Settlements) served as keynote speakers.

In this overview of the workshop we give a brief introduction to the recent trends in the real estate market and its analysis, which should allow a broader audience gain from the research that was presented during the workshop.

Key issues in the analysis of the residential real estate market¹

Real estate markets, including residential markets, are subject to cycles and are determined by local factors. This dependence is the result of local interactions of a variable demand and rigid short-term supply, which results from the relation between the real sector of the economy (real estate developers, construction companies, home buyers), the financial sector (providing financing for home construction and purchases) and the public sector (regulating the market).

The residential real estate sector is analysed as a system composed of various economic segments, pursuing a common economic objective, namely the generation of income from services provided by the housing stock. Housing is considered as a capital good generating a stream of services rather than a consumer good. Services may be sold to third parties or may be internally consumed. The main components of the housing market are:

- the housing stock, generating housing services for households,
- the financial sector enabling home purchases by changing capital into a stream of periodical payments and providing the sector with new capital inflow amidst growing demand,
- the residential construction sector, including, in particular, the real estate development sector transforming financial capital flowing into the sector, into fixed capital in the form of new housing stock,
- the external environment of the housing real estate sector, or the remaining part of the domestic economy with many sectorial interactions.

From this point of view, the analysis of the residential sector is the analysis of its components and relationships between them. As a result, there are new, important interactions affecting the components, the whole sector and its environment such as the domestic economy. The sectorial equilibrium is the main focus of the central bank. Such an equilibrium is a state, under which different segments can generate goods and services in a regular way, thus economic aims are achieved without excessive risk accumulation.

The analysis of housing services involves mainly the analysis of the situation in the residential market, mechanisms of housing needs satisfaction and domestic housing policy from the consumer's perspective. The housing policy or sectoral policy often has a strong impact on both the quality of housing needs satisfaction as well as the distribution of the housing stock and housing services.

The financial sector is the main driving force behind demand in advanced housing markets. The financial sector analysis involves both the examination of the assets of the banks' balance sheets (impact on the housing market liquidity and on investment in residential construction) as well as their liabilities (analysis of the sources of financing, financing

¹ This introduction based on the introduction to the NBP "Report on the situation in the Polish residential real estate market in 2011 r."

instruments, investors and deposit holders). This provides an answer to the following questions: a) whether the sector regularly offers financial instruments enabling liquid trading of the housing stock and its long-term financing without creating excessive tensions in this stock and b) whether the sector makes it possible to convert savings into housing capital goods. Borrowing costs and home prices should be adjusted to household income in the local market. A permanent provision of financial instruments means that they need to be adjusted to the needs of the primary and secondary markets. Other necessary conditions include sustainable and satisfactory economic performance of financial market agents as well as the prevention of the financial and market risk accumulation in the financial sector and residential market. The adjustment of the supply of necessary instruments to meet the market needs is a complex issue. Due to the cyclical nature of the residential market and its vulnerability to speculation and collective behaviour, the market and the financial sector, if unsupervised, may trigger cycles and crisis situations. As a result, it is necessary to manage housing demand in various ways. As experience shows, the most effective form of housing demand management is, apart from fiscal intervention, is a conservative behaviour of specialist banking. Moreover, the demand should be managed through systemic prudential regulations, market monitoring by financial supervision authorities and ad-hoc legal regulations.

The investment function of the financial sector transforms financial capital into housing assets and, as referred to in the previous point, in long-term financing of housing assets.

The analysis of the financial sector's liabilities should account for sustainability of the sector's financing – should ensure that liabilities match assets. This means that the assessment of sustainability of the sources of financing in the long-term and also the assessment of interests of capital providers i.e. rates of return generated in the long term should be analysed. The literature emphasises that sustainable systems have a diversified financing structure, thus financing origins from the deposit market and the capital market². This ensures new loan financing and refinancing of the old portfolio even if one part of the system does not perform appropriately.

The investors' analysis has to take into account their expectations and alternative investment options. This is of particular importance during the period of transition from the deposit-based system into capital market based system. In the long run, the financial instruments need to generate a positive rate of return.

Analysis of the construction and real estate development sector, thus concerning both the market and single companies, provides an answer to the question whether housing output is and will be profitable. A separate aspect of the analysis, aimed to assess output stability, is the assessment of the market situation, both from the demand-supply ratio point of view and the economic situation of firms.

2 E.g. Lea M., Diamond D.B. (1995). *Sustainable Financing for Housing. A Contribution to Habitat II*. Fannie Mae Office of Housing Research.

The last element of the analysis are the relations of the real estate sector with other economic sectors. The residential real estate sector has strong interactions with the rest of the economy. From the point of view of economic policy, including monetary policy, the relations between mortgage banking and the rest of the financial sector, and between the residential construction sector and the rest of the economy are of particular importance. As monetary policy is pursued by influencing interest rate, and the residential sector is generally vulnerable to this instrument, the assessment of the impact of monetary policy on the situation in this sector is of particular significance. The reverse impact is equally important. As the bulk of factors affecting the sector development originate from the economic and social environment (for example income growth, foreign migrations and urban migrations), the analysis of the environment is essential for the assessment of the situation in this sector. An additional factor having a major impact on these relations is housing policy, in particular, policy supporting the sector. The coordination of monetary policy, fiscal policy and prudential policy are the key issues since, as experience shows, they are often contradictory and boost the sector's inherent risk.

1. Hungarian Mortgage Rescue Programs 2009-2016

Adrienne Csizmady, József Hegedüs



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Introduction

After the political changes at the end of the 1980s the Hungarian government tried to manage the housing crisis related to the economic decline and the unsustainable subsidy system of the socialist period. The government backed out from the housing sector, decreasing the subsidies and diminishing its direct role. The housing policy of 1990s could be characterized basically as crisis management: the two major programs were the privatization of the state rental sector and the consolidation of the 'old loans'.

Both measures had a regressive social effect: the financial gains of privatization and early repayment of the loans were proportional to the households' wealth, thus low income households were trapped in the residualized social rental sector or were not able to pay back their mortgage at a discount price. The Housing law regulating the rental sector¹ and the Social Law² made it clear that the government does not take responsibility for housing, but leaves it open for a future intervention. In 1990 the officially measured housing subsidies reached 3.7% of the GDP (World Bank, 1990), and in 1990s more than two thirds of the total home-owner subsidies were spent on the interest subsidy of the 'old loans'. In 1993-94 the subsidies related to borrowing were reduced substantially, to less than 1% of the GDP. In the second half of 1990s new institutions were set up and the legal background improved. Meanwhile, the level of subsidies gradually declined as a consequence of the decreasing housing output. Two basic housing financial institutions were established: contract savings banks³ and mortgage banks. The Law on contract savings banks⁴ was very controversial, as the subsidies given to savers made the housing subsidy system even more regressive, and there was no direct relation between the subsidies and the increase in housing investments. A more important development was the establishment of mortgage banks, which were ready to launch mortgage lending to a larger extent in case the macroeconomic conditions (residential incomes, housing investment demand, etc.) change. All this took place to the effect of the Bokros Program in the late 1990s. (Hegedüs and Várhegyi, 2000)

The study demonstrates the mortgage-lending increasing between 2000 and 2008, the reasons for the fast establishment of the FX portfolio, the consequences of the crisis in 2008, and the program aiming to handle this crisis. The first part of the study summarizes the facts of the development of the mortgage market, while in the second part the different actors of the crisis and their interests are presented, and then the different programs are analyzed. The focus of the paper is the nature of the mortgage rescue programs, how the hardship of the adjustment is managed by the government and how the cost of the programs is shared among the households, government (tax payers) and banks.

¹ Or 'Housing Law': Act LXXVIII of 1993 on Residential and Commercial Leases

² Act III of 1993 on Social Governance and Social Benefits

³ Contract saving banks are special purpose financial institutions, based on the Bausparkasse model.

⁴ Act CXIII of 1996 on Home Savings and Loan Associations

1. Hungarian housing finance – development of the FX portfolio

1.1 The mortgage market between 2000 and 2004

After the post-transitional recession, the overall economic performance of Hungary had improved considerably by 2000. Gross domestic product grew by 4% percent in 2000; fiscal deficit decreased to 2.9% of the GDP; the unemployment rate fell under 7%; and after a long period of decline, housing prices increased by 60% in real term between 1998 and 2000. All these gave room for new policy measures and also had positive effect on the potential housing demand.

In 2000, the first FIDESZ government (1998-2002) launched a new housing policy focusing on the stimulation of housing construction, considered to be a main driver for economic growth. (Hegedüs and Somogyi, 2005) The most significant element of this policy was the introduction of a new *housing mortgage subsidy* in 2000 in order to make mortgages more affordable. There were two different types of interest rate subsidies: (a) an interest rate subsidy to mortgage bonds and (b) an interest rate subsidy for loans connected to new construction. The third element in the subsidy program was the Personal Income Tax (PIT) *mortgage payment allowance* on new housing construction, which existed since 1994, but the degree of the allowance was increased substantially after 2000. Furthermore, a new construction grant was available for the first time homeowner families with children, in order to support new constructions.

Besides the home-ownership program, the government started a municipal rental program, which resulted in around 10 thousand new rental units between 2000 and 2004, but because privatization had never stopped, the share of the municipal rental stock decreased. From 1990 its share decreased from 19 % to 3 %. (Hegedüs, 2013a, p. 186-187)

As a consequence of heavily subsidized mortgage loans, the loan portfolio increased rapidly from HUF 190 billion in 1999 to HUF 1500 billion by 2003, and the outstanding housing loan portfolio grew to almost 8% of the GDP in 2003. The net value of the mortgage subsidy was 50%-70% of the loan (taking into calculation the two interest rate subsidies, PIT allowance, and the lump sum subsidy for young couples). It became clear that the level of subsidization is not sustainable for the central budget. After a long political discussion, the new socialist-free democrats government (2002-2010) substantially decreased subsidies to mortgage loans from late 2003 until mid-2004. PIT allowance for mortgage repayment were also severely cut, and fully abolished in 2007.

1.2 The rise of the FX mortgage portfolio, 2004-2008

The cut in subsidies did not stop the expansion of the mortgage market, as the new foreign exchange (FX) mortgage loan products were introduced. The share of FX mortgages increased from 16% (2004) to 75% (2008) of the full portfolio. (See Figure 1) The cost of loans denominated in Swiss Franc was much lower than loans denominated in the local currency: they had a much lower interest rate, in return for a potentially high exchange rate risk and interest rate risk. Hungary joined EU in 2004, and it was expected to join the Monetary Union in the near future, as a consequence of which, the exchange rate risk of FX loans was grossly underestimated. However, accession to the MU was postponed further and further because of the loose fiscal policy. Until 2008 it was considered very improbable that the value of the HUF would decrease so much that the financial advantages of the

FX loan would be cancelled out. Another important change in the mortgage lending system was the massive expansion home equity loans⁵ from 2004. Home equity loans also had low interest rates, but the related underwriting procedures were much looser, as they were backed by one or more real estate units. The looser underwriting conditions (e.g. no proper checks on income) and less responsible lending practices were a combined result of the intensifying competition among banks and the poor performance of the Bank Supervision Authority. While the mortgage portfolio increased rapidly, competition did not result in a decrease in interest rates (the spread remained very high for HUF loans), which hints at a collusive behavior. Some experts interpreted this phenomenon by saying that competition among banks developed more in the field of risk taking than in price reduction. (Király and Nagy, 2008)

The potential risks (HUF exchange risk and interest rate risk) were underestimated by all stakeholders. The government controlled institutions (Financial Supervisory Authority, Hungarian National Bank) and pro-government politicians were content with the development contributing to the economic growth. The opposition who argued that the cut in subsidies in 2004 would hold back the potential growth of the market did not demand the control over the expanding FX loan portfolio. Households who did not understand the risks of FX equity loans were eager to secure them, and most of the experts thought fast change of the exchange rate improbable. Banks and the Association of Banks stand up for the FX loan, and even the Hungarian National Bank was very modest to indicate the possible danger. The housing finance system was extremely un-regulated and the banks had extreme power to set the cost of the loans, change the interest rates unilaterally, regulate the exchange rates, and more, powers which were not visible at the time of the growth but became evident during the crises and became the source of popular conflicts.

While the mortgage portfolio increased rapidly, competition did not result in a decrease in interest rates (the spread remained very high for HUF loans), which hints at a collusive behavior. By the time the GFC hit the country, the economy had already been weakened by fiscal irresponsibility (a large deficit and increasing debt) and macroeconomic failure (low growth).

1.3 The effect of the GFC of 2008

The GFC shook the Hungarian economy, partly because of the loose fiscal policy (high deficit and external debt), the huge stock of FX mortgage portfolio. As a consequence of the crisis, annual new housing construction fell from 36,200 in 2008 to 7,300 in 2013. Real house prices were more than 30% lower in late 2013 than in early 2008, and housing transactions decreased by 40% in the same period. The share of non-performing loan increased from 5% to 20% between 2008 and 2014. *The initial response by the interim government (2009-2010)* to the crisis focused on managing the fiscal deficit, which was one of the conditions of the IMF loan taken out in 2009. An important element of the fiscal adjustment program was the drastic cut of housing subsidies; the two mortgage interest subsidies and the housing construction grant were repealed. Another important measure was the introduction of a moratorium on foreclosures up to 1st September 2009, which later was extended until 1st July 2012.

⁵ In the case of equity loans the loan is backed by real estate, but the aim of the loan is not defined.

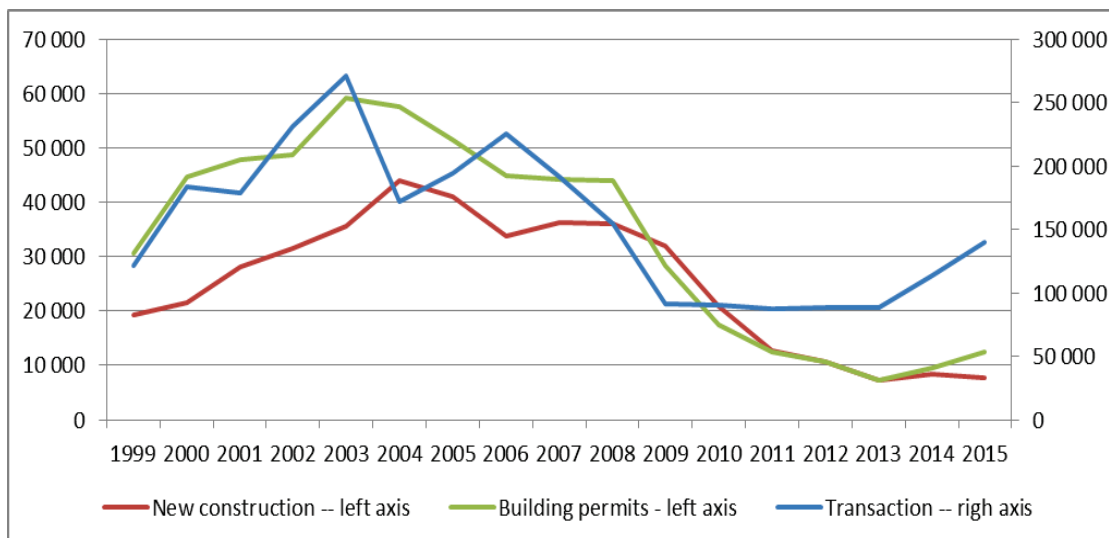


Figure 1 New construction, building permits and transactions 1999-2015 Source. Central Statistical Office (Transactions in 2015 is an estimate by MRI)

The consequences of the financial crisis on the housing sector in Hungary were very much like those experienced elsewhere (Scanlon et al. 2012; Deloitte 2012). The main element of the mortgage loan crises were the worsening exchange rate (especially the HUF/CHF), the increasing interest rate, and decreasing income (because of growing unemployment rate) and the plummeting house price. The politics and the players have not realized the deepness of mortgage crises in 2008 and 2009, the steps of the government to manage the crises were very ineffective, and banks use their legal power to transfer the risk to the borrowers. An important study predicted a small decrease of the defaulted loans from 2009 to 2010 (from 10.8 to 10.2%) (Gáspár and Varga, 2011), and Hungarian National Bank report on Financial Stability (till November 2010) evaluated the risk quite manageable.

To summarize, by 2009 the volume of household loans was close to 8000 billion HUF, which totals 30 % of the GDP. This loan portfolio included consumer loans (like car loans) as well. Around 50 % of it was FX loan. The loan portfolio decreased from 2008 till 2015 as a consequence of the different programs; however, since the HUF was weak the total decrease was only 18 % (between 2009 and 2015). In 2015 the forced conversion and the compensation of the unfair banking practice created a new situation. (See Figure 1 and the discussion of the programs in part 3.)

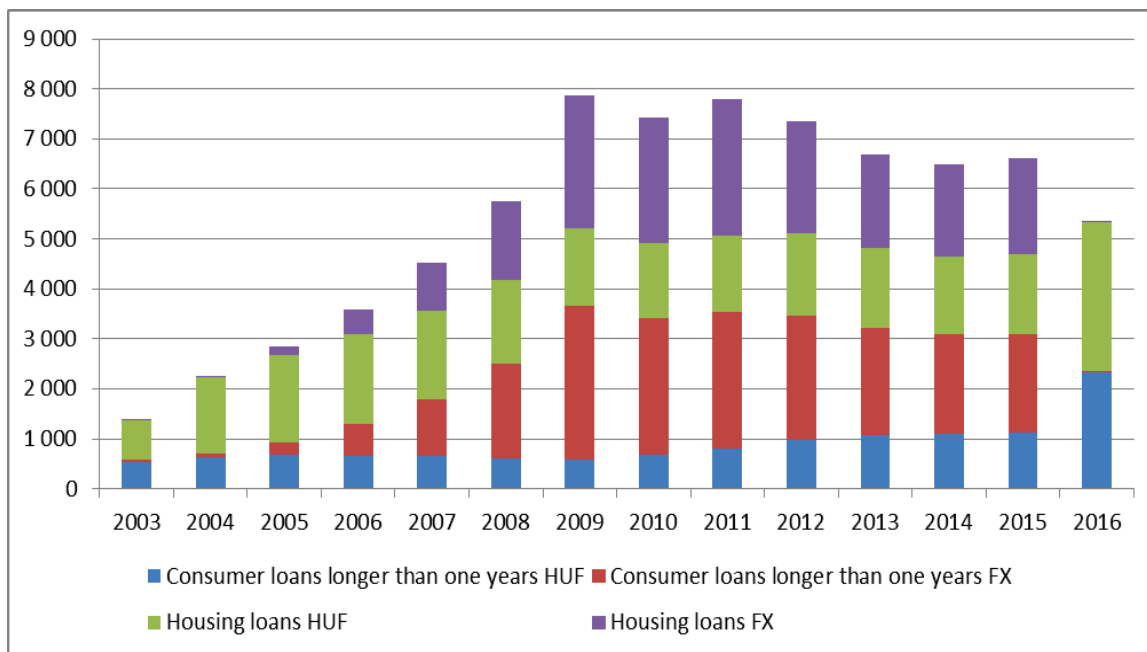


Figure 2 Households' loan development (loans longer than one year) Source: Hungarian National Bank Report on Financial Stability, 2016

2. The political environment of the mortgage rescue programs in Hungary – different players

The mortgage rescue programs aim to slow down the negative effects of the macroeconomic changes and try to stabilize the housing market position of the households who suffered from the hardship of the changes in the interest rate, exchange rate and their household income situation (because of the unemployment and individual conflicts). The international experience shows that very different solutions were implemented depending on the causes and extent of the default, like legal changes (foreclosure procedure – to promote out-of-court restructuring) tax and loan forbearance, temporary ban on evictions, rent-to-own schemes, etc. (Wilcoxs at al, 2010, Long and Wilson, 2011 Howard, 2011). The “orthodox” approach of the mortgage rescue programs is for governments to employ large-scale public interventions only if there is enough evidence that market-driven solutions did not work. This is because the cost of the interventions could easily exceed the benefits as there is always a danger to “create opportunities for politicization and capture by special interests” (Erbenova, 2011). The orthodox approach

1. involves in the negotiation each parties (debtor, lender and the state) and each of them have to contribute to the cost based on mutually agreed consensus (rule of law);
2. allocates the cost of the program according to the capacity to pay among the various types of players (different banks, different groups of debtors, and even different groups of tax payers);
3. tries to increase the time span of the intervention restructuring the present cost to the future.

In the “unorthodox” solution there is no consensus (one party can force the cooperation onto the other) or respect for the rule of law, the costs are not allocated according to the capacity to pay. A typical “unorthodox” element is when the program uses “blanket debt forgiveness schemes”, which puts an unexpectedly high burden on the economy (depending on who picks up the costs) or distorts the behavior of the players. (Hegedüs, 2013b)

Between 2010 and 2015 the policy of the Hungarian government had several program elements which can be characterized as “unorthodox” which 1. was not based on consent of the three parties (borrower, lender and the state); 2. was not proportional and 3. the programs did not transfer the present burden to the future. By contrast, other countries in the region, like Estonia, for example, followed the orthodox models (Bohle, 2014) The Hungarian solution was a consequence of the special political factors in Hungary, and did not follow from the post-socialist model (structural explanation). In the next section we analyze the political environment of the rescue programs.

2.1 The government and the ruling party

The mortgage rescue packages and other efforts of the socialist and free democratic government (in 2009 and early part of 2010) followed the logic of the orthodox approach. However, the government was cautious because they did not want to put an extra burden on the national budget with these measures, for fear of potentially causing further macroeconomic imbalances, and party because

politically they were weak (they had a strong Fidesz led opposition). The new government did not follow this strategy after 2010 when the government had a 2/3 political support in Parliament.

The two-thirds majority of the votes the Orban government of 2010 has received, coupled with their new economic ideas, created a totally new situation. Analysts disagree on how to assess the extent to which they should assume the government did have a concrete plan to reform politics and the economy. It is also debated whether the so called unorthodox economic policy follows a master plan or whether it is more like a series of unrelated political and economic decisions by shortsighted gains not connected theoretically. A stronger hypothesis is that there is a loose “master plan” behind the policy measures which have examples or role models in countries like Argentina, Russia, etc. The ideal development model of the Orban regime was inspired by the Southeast Asian tiger economies. An important element of the system is that the profits derived as a result of the structural economic changes, essentially through the exploitation of cheap labor, will be channeled to the domestic oligarchs close to the ruling party, who, trusting the longevity of the regime, will then re-invest these profits into the economy.

It was beyond the scope of our research to offer a detailed analysis of the economic policy of the Orban government, but the FX mortgage rescue programs cannot be discussed independently from the macroeconomic and political aims. The two-thirds majority eliminated control over political decisions, which has weakened the position of the banks. Political attacks against multinational companies and their punitive taxation (and “freedom fight” against EU) have become part of the political agenda of the government and the ruling party. Prime Minister Orban has repeatedly emphasized that he wishes to favor domestic banks (to be more accurate, those which are close to the government) and several politicians welcomed as a positive development that some banks had decided to leave Hungary. Waging a war against banks, however, is risky, as it endangers the banks’ normal functioning and exposes the country to grave macroeconomic risks. In this “war” the question was how much burden the banks can endure and when some of the government measures will trigger serious sanctions by the EU.⁶ These considerations have significantly impacted the political steps taken in the course of the mortgage rescue programs, which cannot be understood without taking account of the background. The other important element of the “unorthodox” economic and social policy was the aim to strengthen the middle class. As one of the ideologists put it, social policy has to forget about the lowest one-third of the society (and the highest 20% who do not need it) and has to give its support to the remaining 50%.⁷

But the government did not have a clear, well-designed program. As we will see, parallel programs were started, some died, some lived but they were under a continuous change. To put it in another way, the government did not have a clear vision about the mortgage rescue programs. They simply launched them either having discussed it previously with the banks and other players, or not. Depending on their assessment of the given political and economic situation they modified the conditions ignoring possible former agreements. This practice is one of the important elements of the unorthodox mortgage loan rescue programs (Hegedüs, 2014, Hegedüs-Somogyi, 2015), which ignored the law and previous cooperation agreements, but was, at the same time, willing to

⁶ OTP bank, which is owned by small (probably mostly foreign) investors, has a Hungarian management, run by Mr. Csányi, the richest (and very powerful) Hungarian person. His power, however, seemed to have weakened recently.

⁷ <http://www.sonline.hu/somogy/kozelet/berendezkedesvaltas-az-ut-szelen-hagyini-3-millio-embert-489819>

incorporate schemes spreading out the burdens more evenly in case it seemed politically advantageous.

The rescue efforts have an important political element since the majority of debtors are an important group: They are young with higher qualifications and income. Each government prefers providing political support for this social group. Therefore the government strived to ensure that their efforts should be acknowledged and no other political force could benefit from the political gains of the rescue schemes. We shall see that whenever a non-governmental initiative is about to produce some results, the government is quick to react and incorporate these solutions into their policies, even though not always successfully.

2.2 Experts' views on FX loan

Until 2009 there was no principal objection against the FX loans, but after the 2008 crisis the “blame game” started, and different views were formulated in respect of the main “sin” and the possible solutions. The media and various groups used the ideas and interpretations offered by “experts”, even though some of them – according to the authors of this article – have lost touch with the basic assumptions and principles of economics. Their roles were very important in influencing the public opinion. We can differentiate among four main approaches:

- According to the first approach each party was aware of the risks of the FX loans, and no general rescue programs can be justified. The rescue programs will be unjust and unproductive, starting a process which will lead to disturbances in the banking system and cause macroeconomic difficulties. (Csillag and Mihályi, 2011).
- The second approach follows the typical orthodox solution, which argues that each player of the FX borrowing market has to be part of the solution, they all have to offer something. The solution is to convert the FX loan stock into a HUF loan portfolio and offer financial help for the families according to their capacity to pay. (Barta et al 2011, Várhegyi, 2011)
- The starting point of the third approach is that the FX loans were basically a “defective product”, which should not have been allowed by the regulatory agencies. Consequently, the debtors were not responsible for the consequences, and the state and the banks have to restore the original situation and shoulder the costs by themselves. (Róna, 2011)
- The fourth approach is the most radical, which states that the banks intentionally (in cooperation with the state) deceived the debtors. Consequently, the debtors are not responsible for the extra cost of the loans caused by the crisis, and have to be compensated. This view is very popular among the radical civil movements. (Some of the proponents of this view include István Varga and Imre Boros, who were frequent interviewees on this issue on Hungarian television.)

2.3 The Hungarian National Bank and the Bank Supervisory Authority

The Hungarian National Bank has an important role in the regulation of the mortgage market. Their reports are always the most significant document analyzing the market, and have a high influence on public opinion. Their reports between 2004 and 2008 warned about the risks of the FX loans, but they were not really convinced about the necessity to ban or constrain the issue of these loans. Politics played a role as well in their experts' views. Between 2001 and 2007 the president of the

Bank was a nominee of the FIDESZ (from 2002 to 2010 the Hungary had a socialist-liberal government); from 2008 till 2013 the president of the National Bank was a socialist nominee (from 2010 Hungary has had a FIDESZ government), and since 2013 the president, Mr. Matolcsy, has been appointed, who was previously the Minister of Economic and Development Affairs of the FIDESZ government. Of course the HNB should be independent, but these political ties had an effect on its independence, and after 2013 even sustaining the appearance of independence has become less of a concern for the government. Until 2013 the analyses and implied proposals in the HNB reports were put forward for orthodox mortgage rescue programs, but after 2013 the HNB became the most important think tank of the government's unorthodox policy. The Bank Supervisory Authority had always been a weaker player in the sector, and it was merged into the HNB after 2013.

2.4 Mortgage Banks

Before the era of the new Fidesz government, formed in 2010, banks used to play a decisive role in defining the rules and regulations of mortgage loans and consequently in the related political ones, too. In 2009 and 2010 banks continued to follow their former routines and felt they were in a strong enough position not to volunteer offering their fair share in shouldering the costs of the crisis. Their attitude can be well illustrated by the debates on the adoption of a Bank Code of Conduct. First of all, the banks were divided and had different points of views depending on the extent to which they had offered FX loans. This in itself limited their chance of coming up with a uniform response. Secondly, some of the banks were of the opinion that the increased risk should be factored into the interest in such a way that banks should not end up with capital loss, which clearly indicates that they had underestimated the risks.

After 2010 banks have lost the strength of their position, which has much to do with the new unorthodox economic policy and the political vision of the government. Orban has declared several times that the government aims to ensure that Hungarian owned banks should be in majority. This did not imply increasing the monopolistic situation of OTP, the leading Hungarian bank. The Alliance of Banks was not in a strong enough position to be able to harmonize the various interests of banks, which prevented the banks from successfully representing their standpoint in negotiations with the government. (See, for instance, the internal division emerging among banks during the discussion of the Code of Conduct.) The government did not mind some of the banks leaving Hungary and never considered agreements with them unchangeable, which is illustrated by fines levied, auditing investigations ordered, delaying the phasing out of extraordinary special taxes on several occasions, and a special tax introduced to rescue the victims of the Questor broker firm, which has recently gone bankrupt. The government's attitude towards banks, however, keeps changing, partly due to foreign policy reasons (they did not wish to risk the termination of the incoming EU funds), but also out of caution not to ruin the functioning of the bank system. Some of the rescue programs fit into the orthodox measures and were accepted by the banks as well (National Asset Management Agency and FX loan rate caps). Legal verdicts without any economic basis as well as the government support for these verdicts and the anti-bank sentiment around them have seriously harmed the banks even though the government support had other, namely, vote maximizing aims, too. Banks are stalling for time and try to minimize their losses, which allows the government to employ selective measures (e.g. creating more favorable conditions for Erste Bank).

2.5 Players in the legal sector

The legal sector reacted to the mortgage crisis at a fairly early stage. Several interpreters of the crisis (for example, economist Péter Róna) helped the lawyers and the debtors to offer reasons for launching court cases against the banks. However, the courts were not prepared for these types of trial. The statement that the FX loans was a “defective product” has become generally accepted by the majority of debtors and helped them to formulate a new narrative of the mortgage borrowing. However, in legal terms, the court cases used several reasons, e.g. that FX loans just pretended to use foreign currency, but the loan was a “faulty product”, the foreign exchange spread was an illegal cost item, and the unilateral change of the interest rate was unlawful.

Actually, most of the banks (especially the larger ones) used contract types which followed the requirements of the law. Though how much a consumer understands from these contracts is another matter, and it would have been the Bank Supervisory Authority’s job to provide consumer protection. The appropriate basis for court cases was contracts which had some elements missing or were prepared in a sloppy way, thereby affording the debtor the opportunity to win the court case against the bank.

Lawyers have become very active in the court cases, and several layers specialized in the FX loan cases. The number of cases increased from 514 in 2011 to 5,108 in 2013, and around 12,000 in 2015. The market for court cases has increased, and intermediary agents stepped in (according to some views, the same people who were the sales agents for the FX loans). Some other players in the legal system have also become very important such as bailiffs or notaries, who were accused of being great beneficiaries of the crisis.

The government did not support the court cases, but after realizing their significance it played an active role in supporting and influencing them. For example, the decision of the Curia in 2013 was highly criticized by the government for their being on the side of the banks. The Curia, in the spirit of the current autocratic system, modified its decision by 2014.

2.6 Civil movements

Reacting to the existing social problems created by the mortgage crisis, spontaneous civil, self-organized movements have emerged to help the victims of the FX mortgage loans. These movements have been responsible for organizing demonstrations, protesting against banks and the government, typically with the support of the extreme right-wing political parties. The government (and the ruling party) exploited the disappointment of debtors and the anti-bank sentiment, and even encouraged the popular blaming of banks. The government from time to time attempted to integrate the civil movements into the public administration, but they have remained quite independent. For example, in 2013 Mr. Doubravszky, one of the prominent people in the civil movements, was appointed as government Commissioner for Financial Right, but his ‘alternative bank’ proposal failed and he was discharged in 2014. After the Curia decision in 2014, the Civil Unity Forum (CÖF), the government sponsored pseudo-civil organization, tried to merge the anti-bank civil movements under their direction, but they were rejected. Later CÖF stood up against the demonstrations, which is the most important activity of these organizations. The radical wing of the civil movements was not pleased with the decision, as they wanted to nullify the original contracts placing the cost of the exchange rate risk on the banks.

3. Government programs between orthodoxy and unorthodoxy

From 2009 onwards there have been several government attempts to manage the mortgage crisis. Some of them remained very small and inefficient, while some of them had a very important impact on the market and the behavior of the households. The time elapsed is not enough to evaluate most of the programs. There are very good technical analyses of the different programs by the experts at the Hungarian National Bank published in various reports.⁸ We do not intend to give a full analysis of each of the programs, only highlight the most influential program and its characteristics from the point of view of its effect on the behavior and position of the households.

As mentioned earlier, there was no master plan for the rescue programs. Most of the programs were started without knowing what the cost will be and exactly whom it will help, how it will change the position of debtors, whether it will be supported by the players of the sector, etc. The government started a program and adjusted the conditions as problems, constraints, etc. emerged. In the next section first we describe the programs and in the summary we try to classify whether the "orthodox" elements or the "unorthodox" elements are dominant in them.

3.1 Moratorium and foreclosure quota

A moratorium had been introduced on foreclosures until 1 September 2009, which was later extended until 1 July 2012. The moratorium was meant to provide protection for defaulting debtors until a more complex rescue program could be launched. However, the two-year moratorium posed a risk to the stability of the financial system because the expectation that defaulting households could rely on help from the government increased the share of nonperforming loans (HNB, 2010). The moratorium remained an issue of ongoing public debate: radical civil groups demanded that the moratorium remain in effect, but in 2011 the government made a compromise, phasing out the foreclosure moratorium through a yearly quota. The quota applied to properties worth below 30 million HUF with a rate of 3% in 2012; these standards gradually rose to 5% by 2014 (that is maximum 3% and 5 % of properties with non-performing loans can be foreclosed). The actual number of foreclosures however reached only 75-85% of the quota due to the weak housing market and the banks choosing other solutions rather than foreclosing. Nevertheless, right after the last election, in May 2014, the new parliament introduced a moratorium again for an undefined period, until a final solution for the defaulted FX mortgage debtors is agreed upon. After 2015 the quota system was terminated.

3.2 National Asset Management Company – buying the defaulted properties

This special buy-to-rent scheme was introduced in 2012, managed by the newly established National Asset Management Company (NAMC). NAMC can buy a limited number of delinquent loans and offer

⁸ Most important are the Stability Reports published two times a year. See www.mnb.hu.

a renting option to the former debtor. The ex-owner become a tenant with a contract (without time limit) with an option to buy back the unit for 5 years. By mid-2014, NAMC had got more than 25 000 offers, and actually bought 16500 properties at the average price of 3.7 million HUF, which is 46% of the price in the time the contract was conducted (Csillag, 2015). The scheme targets the most vulnerable of borrowers who have children, but the conditions has been relaxed and other vulnerable groups become eligible. The government increased the number of flats available for purchase to 35 000 in 2016. A significant problem of the scheme is that a 30% of the families targeted by the scheme cannot even afford the low rent set by the law due to preexisting debt (e.g. for public utility fees). The scheme does not provide a private insolvency solution to the former debtor. While the program may be the largest social housing program since 1989, problems surrounding the financing and maintenance of the sector remain unsolved. An important element of the program, that it is voluntary, that is both the debtor and the lender have to agree to join the scheme. In 2016, the evictions were initiated for the non-paying tenants, which implied protests by the lobbying organizations. Attempts are made to manage the problem of non-paying tenants by involving social institutions (with contribution of the Maltese Charity Service and the Calvinist Church's social organizations) but no considerable change has occurred in the attitude of non-paying tenants so far.



Figure 3 Housing subsidies in Hungary, 2000-2013 (in billion HUF) Source: Government

3.3 Early repayment scheme

The Early Repayment Scheme (ERS) ran from September 2011 till the end of February 2012, allowing borrowers to fully repay their CHF mortgages at a reduced exchange rate of HUF 180 to the Swiss Franc, when the Franc was trading at HUF 235-250. As a result 23.3% of the mortgage loans – HUF 984 billion (or EUR 3.3 billion) – were repaid at discounted exchange rate, and HUF 1,355 billion (about EUR 4.6 billion) was repaid at the current exchange rate.⁹ New loans provided 30% of the source of the early repayment; the remaining 70% was households' savings (life insurance, securities, etc.), which clearly indicates this opportunity was mostly only feasible for wealthier families. (Of

⁹ PSZAF, 2012a: PSZAF. 2012b. Kényszerértékesítésre kijelölt ingatlanok adatai [*Parameters of real estate selected for foreclosure*].

course the interest rate increased as the early repayment scheme started, but it was justified with the increased risk.) In the end, ERS and most of the similar ‘mortgage rescue’ efforts can be summarized as a bailout measure for higher income households in a temporary difficulty. According to expert estimates, 15% of the repaid sum was connected to the informal economy. The so-called ‘Home protection law’¹⁰ did, in fact, stipulate that the Tax and Customs Administration cannot check the source of early repayments in connection with the untracked wealth increase. The banks had to make up for the cost of the discount, writing off a gross loss close to HUF 350-400 billion (0.5% of the GDP). According to the agreement between the banks and the government, financial institutions will be able to write off 30% from the special Tax on Banks, so the cost of the program will eventually be shared at 70%-30% between the banks and the government. This implicit subsidy was offered to the households who could finance the repayment (either from saving or loans), which had a regressive effect on income distribution. As a consequence of the ERS, the quality of the remaining stock will worsen as a recent report on K&H Bank demonstrated: the share of NPL in the stock of mortgage loans increased from 10.7% to 13.4% in the last three years.¹¹

3.4 FX loan rate cap scheme

The *FX loan rate cap scheme* was introduced in 2012. It put an exchange rate cap on repayments and opened a special account for the exchange rate differential. Due to the number of low applicants, the eligibility criteria were eased and the deadline modified several times to make it more accessible and attractive for borrowers. Once qualified, interest components above the exchange rate limit were paid by the bank and the government (at a ratio of 1:2); borrowers had to repay only the principal part, including the interest on the latter. The preferential rate period will last until June 2017 at the latest, but there has been uncertainty surrounding the accumulated debt on the special account at the end of the program. Despite the government’s active encouragement to enter this program, it never gained much popularity: between 2011 and 2013 around 40% of eligible households chose this option (178 thousands borrowers in total). The somewhat contradictory government communication led borrowers to expect more advantageous programs in the future. The program with the forced conversion introduced in 2015 stopped. (See later under 3.6.)

3.5 Compensation for “unfair” banking practice

By 2013, the various court cases launched by the movements were brought to the *Hungarian Supreme Court (Curia)*, which ruled in favor of the banks. The politicians (the Prime Minister among them) criticized the Curia, claiming it was biased towards the banks. On 16 June 2014 the Curia’s ruling was modified: firstly, the court concluded that the practice of “rate spreads” (using different rates for buying and selling currencies) was unfair, and that the banks should have to use the HNB central rate; secondly, the Curia declared that the unilateral modification of the loan contract (e.g. interest rate) by the banks was unfair, and the monthly installment should be recalculated compensating the borrowers; thirdly, the Curia declared that the exchange rate risk should be borne exclusively by the borrower.

¹⁰ Act CXXX of 2011 on the amendment to Act CXII of 1996 on Credit Institutions and Financial Enterprises in relation to the expansion of home protection measures

¹¹ See HNB, 2011 for detailed analysis.

3.6 Forced conversion of FX loans

The conversion of the forex housing loans to HUF loans has been promoted from the beginning, but no substantial support was given. (The conversion fee was pardoned.) Very few borrowers used this option, because they hoped for better solution.) In November 2014 the government made a decree which forced the banks to convert the FX mortgage loans into HUF at a current market based FX – HUF exchange rate (1 CHF=256,47 HUF, 1 EURO=308,97). The future initial interest rate of the converted FX mortgage loans is also regulated, and cannot be changed for three years. This conversion happens parallel to the settlements, which compensate the debtors for the exchange rate spread and the unilateral interest rate increase. Consequently, typical borrowers after the conversion and settlement will be in a better position. However the most radical groups were quite unhappy with this solution, because with the converted new HUF loans they will lose any basis for compensation.

3.7 Private bankruptcy law

KDNP (Christian Democratic People's Party) submitted a bill introducing private bankruptcy in the spring of 2015¹², which provides bankruptcy protection for the residents (earlier this opportunity had been available only to companies). It aims to assist those who are unable to pay their debts in concluding an agreement with their creditors, restore their solvency, and ultimately get out of the debt trap. Private bankruptcy can voluntarily be initiated only by the debtor. The debtor can only apply for private bankruptcy under severe conditions (e.g. if their property and income that can be allocated for repayment are insufficient for debt repayment; they have a debt that amount to 2-60 million forints and are enforceable in an office or on court, they acknowledge 80% of their debts, etc.)

Private bankruptcy may be requested with housing loan, mortgage, bail and maintenance fee arrears. The private bankruptcy protection and the severely supervised debt repayment period last for 5 years but can be extended to a period of 7 years. If the debtor has fulfilled their obligations in a disciplined manner and has cooperated to a full extent, then the court exempts them from their remaining debts. This can mean remitting up to 55-95% of their debts. On the basis of the experience obtained so far, private bankruptcy has been applied by only few persons, primarily owing to the excessive administrative burdens.

¹² <http://magancsodvedelem.hu>

4. Conclusion: evaluation of the programs

The mortgage rescue programs launched by the government can be characterized as orthodox or unorthodox programs, more exactly, we can differentiate between the programs where the “orthodox” elements are dominant and programs where the “unorthodox” elements are more significant.¹³

In our (Hungarian) case, the unorthodox approach means that the burden of the crisis should be put on the banking sector (and as much as possible, on the foreign owned banks), and it has no targeting to the needy population, but it mostly supports the middle class to generate purchasing power. We have seen the motivation of the government in section 3.2, which explains the existence of the orthodox programs, that is, the fear of facing macroeconomic risks, mass eviction and unrest of the poor. The fiscal and financial aspects of the game between the government and the banks are very complicated. The government even in 2010 already levied a punitive tax on the banks, promised that it would be phased out in two years, which has not happened. Most of the cost of the mortgage rescue programs was paid by the banks, which suffered losses in 2014. As a compromise, the banks can write off some part of their loss against the tax they paid, which gives some incentives for cooperation. But it is very difficult to predict the result, how the banks will behave in the future and what the macroeconomic cost of the anti-bank programs will be.

¹³ However there were other programs not mentioned in the paper, which have been aborted. For example, in the small town of Ócsa a social housing estate was built, which cost a lot for the budget and was very unpopular, widely criticized by the public.

Table 1. Summary of the programs

Type of the program	Program	Start-End	Main characteristics	Cost and number of beneficiaries
Un-Orthodox	Early Repayment	November 2011 – February	The program supported high-income families, banks were not consulted, it had a huge regressive effect socially.	350-400 billion was paid by the banks, the government gave tax exemption for banks up to 30% of the cost (less tax revenue), 160 thousand used this option
Un-Orthodox	Moratorium and quota	2009-2012 2012-2015	The moratorium was too long and weakened the position of the banks, but the quota system got the support of the banks	Contributed to the increase of the share of NPL loans
Orthodox	FX Loan Cap scheme	2012-2015	This program was quite acceptable for the banks, their losses were manageable.	Costs were shared between the borrower, state and banks, 178 thousand participated, 40 % of the eligible debtors
Orthodox	National Asset Management Company	January 2012 -- continuing	Typical orthodox program based on voluntary participation	61 billion, 25 000 households, but it was increased to 35 000
Un-Orthodox	Compensation of unfair banking practice	November 2014 – expected end of 2015	Based on the decision of the Curia, and unilateral Parliament decree, banks are not consulted	Banks must pay an estimated cost of 900-1000 billion HUF.
Orthodox	Forced Conversion	January 2015	The conversion on market exchange rate is favorable for the banks but their loss can be increased because of the maximized interest rates.	
Orthodox	Private bankruptcy law	2015	The possibility of getting rid of debts, but at the price of placing the household financial affairs under control for several years j	No experience yet

With the forced conversion the story of the Hungarian FX loan has finished. Interestingly enough, the loan product was sold in the years of 2004-2008 (5 years), and the rescue programs lasted from 2009-2015 (6 years). Moreover the problem has not been solved because the quality of the mortgage loan in HUF currency is very critical: the number of the contracts which have more than 90 delays has reached 182 thousand. (HNB, 2015)

Table 2 Non-performing households' loans (Source: Hungarian National Bank)

		Loans in 90 days delinquency		Non-performing loans with less than 90 days delinquency		Non-performing loans together	
		Volume (HUF Bn)	Share (per cent)	Volume (HUF Bn)	Share (per cent)	Volume (HUF Bn)	Share (per cent)
Household loans	2014 Q4	1 143	19,2	-	-	-	-
	2015 Q1	873	15,9	332	6,0	1 206	21,9
	2015 Q2	878	16,2	318	5,9	1 196	22,1

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2. Household debt in OECD countries: stylised facts and policy issues

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ABSTRACT

Household debt has risen markedly since the turn of the century and stands at a historically high level in most OECD countries. This paper offers an overview of developments in household debt over the past decades across a large sample of OECD countries, highlighting both common trends and country specificities. It examines the vulnerabilities associated with high household debt for households, the financial system and the wider economy. Finally, it describes the challenges faced by policymakers at the current juncture and outlines responses in terms of monetary, micro and macro-prudential, and housing policies.

JEL Classification: D14; E21; E52; G21; G28; R21; R31.

Keywords: Household debt, household balance sheets, mortgages, foreclosures, housing market, financial stability, monetary policy, micro-prudential policy, macro-prudential policy, housing policy.

HOUSEHOLD DEBT IN OECD COUNTRIES: STYLISTED FACTS AND POLICY ISSUES¹

Household debt has risen markedly in most OECD countries since the turn of the century, on the back of falling interest rates and innovation in mortgage markets. While the 2008 global financial (and economic) crisis (henceforth GFC) triggered deleveraging in some countries, household debt has stabilised at a high level or continued to rise in many others. High household debt may entail risks for households, the financial system and the wider economy. However, the level of aggregate household debt cannot stand alone as an indicator of risks. Rapid increases in debt, often associated with housing booms, are more suggestive of upcoming adverse economic and financial developments. These can take many forms. Financial distress can result from a deterioration of lending standards, as illustrated by the meltdown of the US subprime mortgage market, which was at the epicentre of the 2008 financial crisis. Another source of vulnerability is fragile mortgage financing structures, notably involving excessive reliance on short-term borrowing. The collapse of the UK mortgage lender Northern Rock in 2007 is a case in point. Finally, even in the absence of a direct impact of adverse shocks – such as falls in housing prices, drops in household income or increases in interest rates – on the financial system, high household debt may amplify the business cycle, as households adjust consumption to cope with their financial obligations. This is illustrated by the macroeconomic impact of recent falls in housing prices in Denmark and the Netherlands, the two countries with the highest household debt-to-income ratios in the OECD.

From a policy point of view, rising household debt creates a number of challenges. Assessing associated risks is difficult. Aggregate debt levels tell little about the ability of households to repay loans, which depends on the distribution of debt, income and wealth

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across households. Only in a few countries are comprehensive household-level data on all these dimensions available, even though national authorities, notably central banks, are increasingly working to fill the gaps. The resilience of mortgage financing structures to turmoil in financial markets is also difficult to evaluate, particularly when these structures are complex and opaque. Systemic risks are even more difficult to grasp, as shown by the US subprime crisis, which spread from a relatively small segment of the US mortgage market to global finance. Macroeconomic risks associated with high and rising household debt are also fairly difficult to assess. A related issue, as a large part of household debt in OECD countries consists of mortgages, is the difficulty of identifying housing bubbles in a timely manner. Uncertainties in diagnosis create difficulties in designing appropriate policy responses. Furthermore, they can generate political economy complications, as support for policies aimed at restraining growth in household debt may be weak, especially when these policies have undesirable short-term effects on the economy – e.g. lowering output growth and employment – or specific groups – e.g. first-time buyers, banks or homebuilders.

Assuming that action to curb growth in household debt is warranted, policymakers face another difficult choice regarding the most appropriate instruments to use. A wide range of instruments can affect household debt developments. Unfortunately, most of these instruments have side effects so their choice implies difficult trade-offs. Instruments can be broadly sorted into three categories: micro-prudential, macro-prudential and monetary policy. Sound micro-prudential regulation and supervision is essential to ensure effective risk management and consumer protection. Nevertheless, they may be insufficient to contain systemic and macroeconomic risks. Monetary policy is a crude tool to contain household debt, among other reasons because this objective may conflict with core objectives of stabilising consumer price and output levels. This is particularly the case in the current environment of near-zero policy interest rates in many countries. Macro-prudential policies are an appealing alternative, although they are largely untested in OECD countries.² Finally, in many countries high housing prices and household debt are associated with poorly functioning housing markets. Structural features of housing markets influence their resilience to shocks coming from the economy or the financial system. A holistic approach to housing issues is needed to achieve at the same time financial stability and decent, sustainable housing conditions for all.

² Loan-to-value (LTV) caps have often been used as micro-prudential instruments, but more rarely for macro-prudential policy in OECD countries (see below).

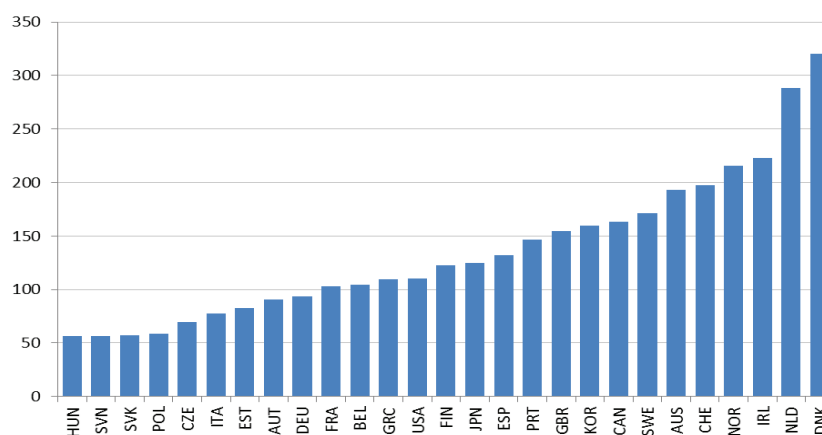
This paper is organised as follows. The first section outlines developments in household debt in OECD countries over the past two decades. The second one analyses the drivers of debt increases. The third section explores the implications of high and rising household debt for financial stability and the macroeconomy. The fourth section sketches out policy responses, and the fifth one concludes.

Household debt in OECD countries: stylised facts

Debt levels vary widely across OECD countries

The level of gross household debt ranges from less than 60% of net disposable income in some Central and Eastern European Countries (CEEC) to about 290% in the Netherlands and more than 320% in Denmark (Figure 1). Many factors influence the aggregate level of debt, including the depth of the financial system, the level of housing prices, demographics, the pension system, social safety nets and social attitudes relative to saving and borrowing. Denmark and the Netherlands have suffered sharp housing price adjustments recently, which affected macroeconomic performance, but had little direct impact on financial stability. The Irish banking system suffered massive losses on property development-related loans. Other countries with high household debt levels, including Australia, Canada, Korea, Norway, Sweden and Switzerland have sailed through the global downturn without major damage to household balance sheets and housing markets. Conversely, some of the countries where the housing bubble burst, such as Estonia, Greece, Spain and the United States, had relatively low aggregate household debt. As discussed below, while a high level of debt calls for vigilance, many other factors need to be taken into account to assess risks to households, financial institutions and the wider economy.

Figure 1. Gross household debt in OECD countries
Per cent of net disposable income, 2013 or latest year available



Source: OECD National Accounts database.

Debt has risen rapidly since the turn of the century

Gross household debt rose markedly in most OECD countries between the mid-1990s and 2008. On average, it roughly doubled as a percentage of income. Figure 2 displays the evolution of the debt-to-income (DTI) ratio in four groups of countries, using different scales as debt levels vary widely across groups of countries. In the Anglo-Saxon group, debt ratios rose rapidly from 1995 to 2007. Trajectories diverged subsequently, with deleveraging in the United Kingdom and the United States, while debt accumulation continued, albeit at a slower pace, in Australia and Canada. The group of Northern countries includes the Nordics and the Netherlands, which share many common features. Although Korea is a very different country, it is included in this group, as household debt increases have been similar to those of Sweden. However, underlying causes differ, as the rise in debt was associated with rapid increases in housing prices in Sweden, but not in Korea. The debt ratio has increased steadily in the Northern group. Denmark and the Netherlands, which have the highest household debt levels in the OECD, are the only countries in this group where there has been deleveraging recently. The debt ratio increased rapidly from relatively low levels in the euro area periphery. The increase was associated with housing bubbles in Greece, Ireland and Spain, but not in Italy and Portugal. Although nominal debt is decreasing in all these countries, reductions in debt ratios have been limited by drops in income. In Central and Eastern Europe, debt ratios have risen from very low levels. In the context of a recently privatised housing stock and financial deepening, an increasing debt ratio was to be expected. The process was relatively smooth in most countries, but unsustainable indebtedness was followed by sharp adjustments in Estonia and Hungary. Structural features of housing and mortgage markets can partly explain divergent evolutions across countries (Box 1).

The DTI ratio shows strong asymmetry. While it increased briskly during the boom, it generally decreased little during the downturn (Bouis et al., 2013; MGI, 2015). This asymmetry largely reflects that deleveraging is mainly driven by shrinking inflows into debt, rather than increasing outflows, including through defaults (Bhutta, 2012).³ The time needed to repair balance sheets is one of the reasons why recessions following housing market collapses tend to be protracted. High debt is widely seen as an obstacle to growth and financial stability (OECD, 2012; IMF, 2015a). Nevertheless, rapid deleveraging can be

³ In addition, there is evidence that reductions in household borrowing in the United States in the wake of the GFC were more driven by tighter lending standards than by a demand response to lower housing wealth (Gropp et al., 2014).

harmful to growth, particularly if it happens mainly through credit contraction. Recent IMF estimates shed light on factors behind deleveraging in a sample of advanced economies between 2007 and 2014 (IMF, 2015a). In four countries, the gross household debt-to-GDP ratio fell by more than nine points, but the reduction was driven by very different factors. In the United Kingdom and the United States, nominal GDP growth made a sizeable contribution. Debt write-offs also helped, particularly in the United States, where non-recourse mortgages are prevalent. Asset revaluation further improved the net debt-to-GDP ratio, as property and stock market rebounded. In Latvia and Spain, deleveraging took a big toll on activity and employment, as it occurred mainly through a reduction in net debt issuance, although there were also significant debt write-offs. In Greece, gross household debt jumped up almost 18% of GDP, with lower output volume more than offsetting reduced debt issuance and no relief from write-offs. Net debt increased even more due to asset depreciation. This clearly illustrates the importance of the nature of the deleveraging process for growth and financial stability.

Box 1. Household debt in Hungary and other OECD Central and Eastern European Countries (CEEC)

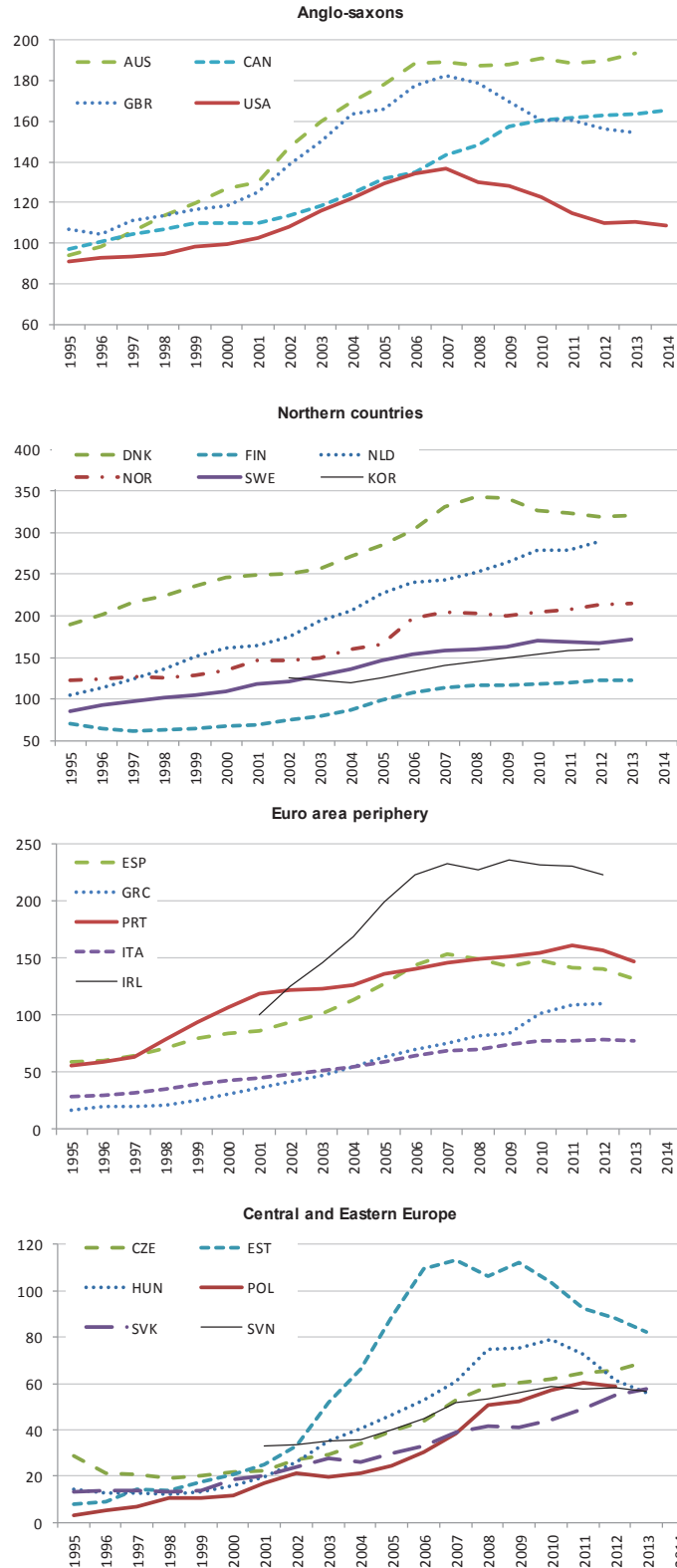
After the fall of communism, mortgage lending expanded rapidly in Central and Eastern Europe (CEE). The rise of household debt resulted from the privatisation of the housing stock, low interest rates and increased availability of credit. Optimistic expectations about income growth supported the build-up of household debt before the crisis, as progressive catch-up with older EU members' income levels was anticipated (Chmelar, 2013). However, housing and mortgage markets evolved differently across countries. While in most countries the overwhelming majority of the population became homeowners, the Czech Republic moved towards a more balanced tenure structure, with a large rental market. The availability of rental housing provided an alternative to owner-occupied housing, especially in cities, alleviating pressure on housing demand. The type of mortgage products offered has also been very diverse. While the proportion of foreign-currency mortgages was negligible in the Czech and Slovak Republics, it was about 40% of outstanding loans in Poland, 70% in Hungary and 80% in Estonia in 2008. The very low share of foreign-currency loans in the Czech Republic results from low nominal mortgage rates in the national currency, associated with low inflation and high household saving ratios (Lux and Sunega, 2012).

The non-performing loan (NPL) ratios increased in all OECD CEEC during the crisis. The rise was relatively modest in the Czech and Slovak Republics and Poland. On the contrary, NPL ratios of loans to households rose spectacularly in Hungary, reaching about 15% in 2012. This can be partly attributed to the depth of the recession in Hungary. However, housing market and especially mortgage market structures also made Hungary less resilient to the economic crisis than its neighbours. Homeownership was "the only viable option for obtaining permanent housing" (Lux and

Sunega, 2012). Strong policy support for homeownership contributed to increasing demand for owner-occupied housing. However, mortgage interest subsidies were cut in 2004, pushing up the cost of mortgages. This resulted in a widespread shift in demand towards mortgages in foreign currency, which carried lower interest rates. After 2004, the majority of new loans in Hungary were denominated in Swiss francs or in euros. This is an interesting – but not unusual – illustration of the perverse effect policy measures may have when behavioural responses are not anticipated or at least monitored closely enough. After 2008, the sharp depreciation of the forint increased the loan repayment burden 30% to 40% on average (Hegedus et al., 2011).

The Hungarian government launched a debt repayment programme in September 2011, which allowed debtors to repay their mortgages at an exchange rate about 25% below the market rate during a period of about five months. Further measures to lock in preferential exchange rates for five years and to convert non-performing foreign-currency mortgages into forints were introduced. However, the impact of these relief programmes on outstanding household debt has been modest. Relief schemes seem to have suffered from excessive complexity and poor targeting. In particular, only better-off households could afford to repay their loan in a single payment as proposed in the September 2011 programme. Another weakness of the rescue programmes was that two-thirds of the cost (of about 1½ per cent of GDP in total) was borne by the banks, which had limited capacity to absorb it. This may have worsened the credit crunch (IMF, 2012 and 2013). Ultimately, in November 2014, the central bank and the Banking Association agreed to rapidly convert foreign-currency mortgages into forint, at the market exchange rate of the date of the decision, to reduce the exposure of households to exchange-rate risk (IMF, 2015b).

Figure 2. Recent gross household debt developments in selected countries
Per cent of net disposable income (different scales)

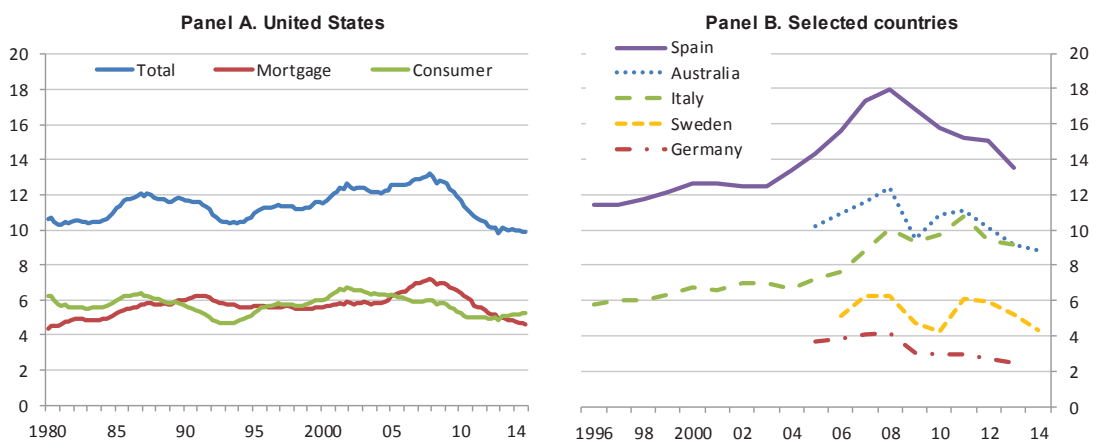


Source: OECD National Accounts database.

The debt service burden remains low

Although household debt stands at a historically high level in most OECD countries, household debt service generally remains moderate, as interest rates are also historically low. In the United States, the debt-service ratio has varied within a fairly narrow range over the past 35 years and is now close to its lower bound, after reaching a peak at the end of 2007 (Figure 3, Panel A). Debt service payments are also moderate in a sample of other OECD countries, among them some with high DTI ratios, like Australia and Sweden (Figure 3, Panel B). Debt service ratios have declined, as debt stabilised or receded, while interest rates fell steeply. Even if these numbers seem reassuring, a number of facts need to be kept in mind. First, the debt service ratio depends on mortgage repayment schedules. For example, the large share of non-amortising loans partly explains the low debt service burden in Sweden. Second, interest rates are close to historical lows and are likely to rise in the future. In a number of countries, variable mortgage rates are prevalent and higher interest rates would rapidly translate into higher debt service payments. The impact on the debt service ratio would be somewhat weaker if, as can be expected, interest rates increases coincide with rising disposable income. Third, aggregate numbers may mask high debt service burdens for some categories of households, which may be particularly vulnerable to interest rate increases or reductions in income.

Figure 3. Household debt service payments
Interest and principal, per cent of disposable income

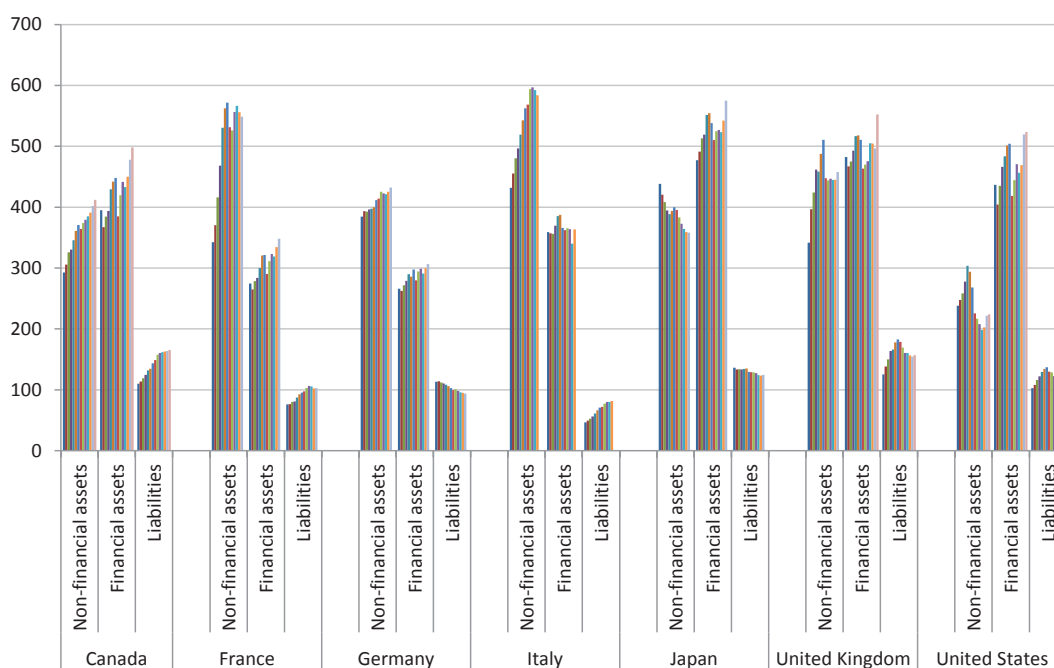


Source: OECD National Accounts database.

At the aggregate level debt is dwarfed by assets

Increases in gross household debt have generally been matched by increases in assets. In the major seven OECD countries, the sum of financial and non-financial assets is equivalent to about seven to more than nine years of disposable income, while debt is equivalent to well below two years of income. Hence, on aggregate, the household sector has high net wealth. Although asset values have fluctuated significantly over the period 2001-14, wealth buffers always remained large (Figure 4). Assets also largely exceed liabilities in the countries with the highest household debt ratios, like Denmark and the Netherlands, where large amounts of wealth are accumulated in pension and life insurance funds. However, assets such as pension savings can generally not be mobilised to repay debt in case of financial difficulties. More importantly, aggregate positions mask the distribution of assets and debts. Typically, tenants and a part of the homeowners will have little or no debt, assets tend to be concentrated, and a fraction of borrowers are vulnerable to adverse shocks, such as reductions in income or unemployment. Therefore, an assessment of risks associated with household debt requires data on the distribution of debt and assets across households.

Figure 4. Households assets and liabilities in the major seven OECD countries
Per cent of net disposable income, 2001-2014 (or latest)

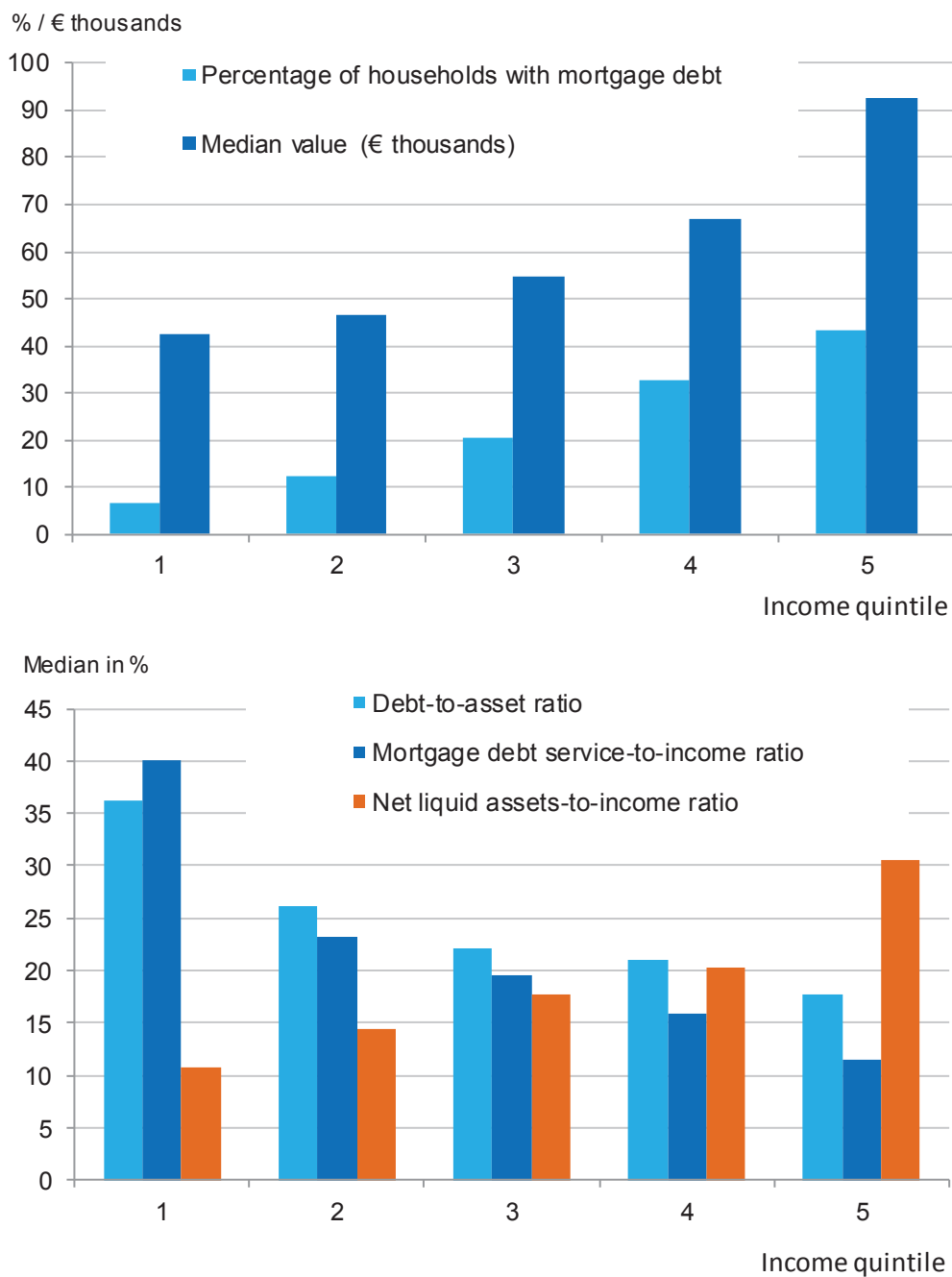


Source: OECD Economic Outlook database.

Debt is unevenly distributed across households

In general, highly indebted households tend to have relatively high incomes and wealth. As an illustration, in the euro area, both the percentage of households holding mortgage debt and the amount of debt they owe is positively correlated with income (Figure 5, first panel). Nevertheless, low-income indebted households tend to be more leveraged, to carry a higher debt burden relative to income and to have lower liquidity buffers than more affluent ones (Figure 5, second panel). In addition, these households tend to be more vulnerable to negative income shocks and unemployment. Hence, this segment of the market needs to be monitored carefully. Micro data can be used to perform stress tests to assess the vulnerability of households to different economic scenarios, notably interest rate increases and falls in income and housing prices. For example, Ampudia et al. (2014) carry out such an exercise for the euro area and find that overall euro area households are resilient, but that there is substantial heterogeneity across countries. In the early 2000s, economically vulnerable households in the United States, particularly the young, low-educated and African-Americans or Hispanics, accumulated large amounts of debt relative to income and their assets were largely concentrated in housing. Hence, the households most exposed to the consequences of the recession had the weakest and riskiest balance sheets (Boshara and Emmons, 2013). Following the recession, in some Southern European and CEE Countries the share of homeowners spending more than 40% of their income on housing costs, although generally lower than for renters, is substantial (Eurostat Housing Statistics; Rosenfeld, 2015).

Figure 5. Distribution of mortgage debt in the euro area
2010



Source: Eurosystem Household Finance and Consumption Survey (ECB, 2013).

Surveys of household finances are often compiled at relatively long intervals and become available with a fairly long lag. This is an important shortcoming for financial supervision and policy making. However, this problem can be at least partly overcome and more timely estimates provided, at the price of some reasonable approximations. For

example, Krimmel et al. (2013) combine US Survey of Consumer Finances data with quarterly macro-level financial accounts data to produce timely estimates of the state of household balance sheets.

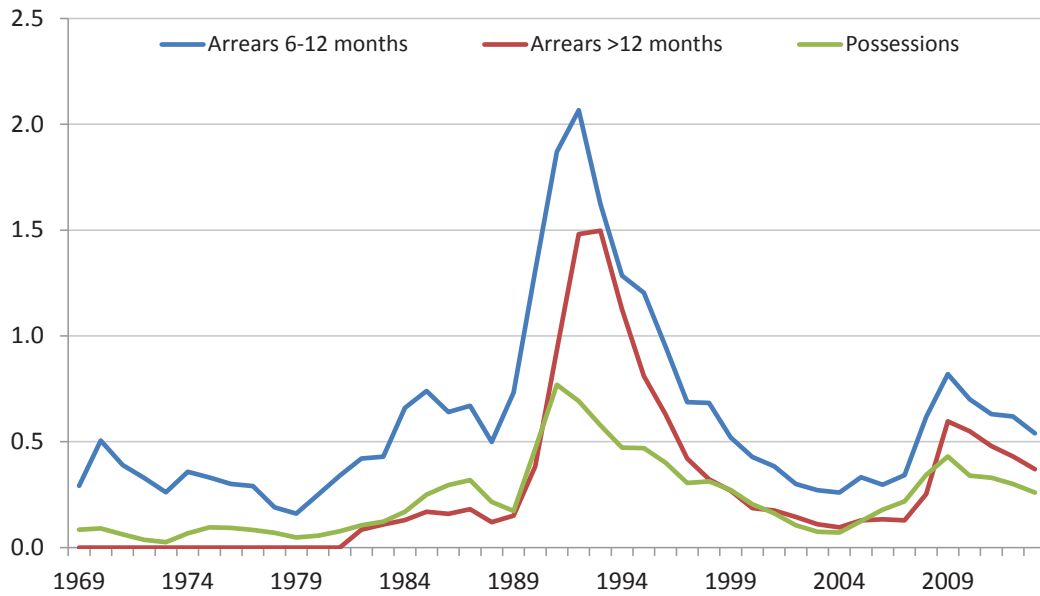
Delinquencies and foreclosures reflect various factors

In the run-up to the GFC, mortgage lending soared in most OECD countries. In many cases, the expansion was supported by overly optimistic expectations about future economic and housing price developments. The crisis resulted in rising arrears, although with large differences across countries. Foreclosures rose sharply in the United States, but much less in other countries, partly as a result of institutional differences, state interventions and lender forbearance. In many countries, the share of non-performing mortgages rose only modestly, in particular because low interest rates alleviated the repayment burden. The transmission of lower policy rates to mortgages is especially strong in countries where variable rates are prevalent. The United Kingdom provides an illustration. During the downturn of the early 1990s, arrears and possessions increased markedly, as high interest rates pushed up the loan servicing burden. During the latest recession, low interest rates contained the increase in arrears, although a smaller increase in unemployment also contributed (Figure 6).

Among the countries with the steepest rises in mortgage delinquencies, it is useful to distinguish two categories. The first one includes the countries where defaults can be mostly attributed to excessive risk taking in mortgage lending, although deteriorating economic conditions also played a role. The US subprime crisis is the most obvious example. Countries where mortgages tied to foreign currencies or inflation (e.g. Hungary, Iceland) were prevalent also experienced high rates of delinquencies. In this category, defaults started early in the crisis. In the United States, where the ability of many subprime borrowers to repay their loan was contingent on rising housing prices, defaults and foreclosures skyrocketed soon after prices stopped rising in some states around mid-2006 (Figure 7). The countries in this category are relatively few. This is in line with historical experience, where residential mortgage lending has rarely been a source of major financial losses, contrary to loans to real estate developers and commercial property. From a policy point of view, failures in financial regulation and supervision can be seen as the main culprits for crises associated with lax underwriting practices. Sound micro-prudential standards should be able to avoid the repeat of similar episodes.

The second category creates more policy challenges. Even though some easing of credit standards contributed to a housing boom in some cases, defaults on residential mortgages in this category largely result from falling income and rising unemployment during the downturn. This is the case of several euro area countries, where most of the increase in delinquencies followed the deterioration in economic conditions. Countries which had gone through a construction and house price boom, like Ireland and Spain, have seen defaults increase sharply (Figure 8). Defaults also increased, albeit more modestly, in countries where housing markets had been relatively stable, like Italy and Portugal. As defaults are largely endogenous to the economic situation, they cannot be mainly blamed on poor underwriting, even though some financial institutions may have used overly optimistic assumptions in their stress tests during the boom. Hence, sound micro-prudential regulations need to be complemented with macro-prudential measures to take into account systemic risks and macroeconomic spillovers. It is worth noting, however, that Spain requires dynamic provisioning from banks since 2000 (Saurina, 2009). While this is likely to have mitigated credit losses during the downturn, it was not enough to prevent the preceding housing boom. Monetary policy can contribute to reining in lending to households in some circumstances, but sometimes this may conflict with its primary objective of stabilising inflation and output, as currently in Canada, Norway or Sweden. More generally, monetary policy is a crude tool to deal with asset price bubbles. Other policies, such as property taxation and land-use planning also have a role to play in reducing housing price and construction volatility.

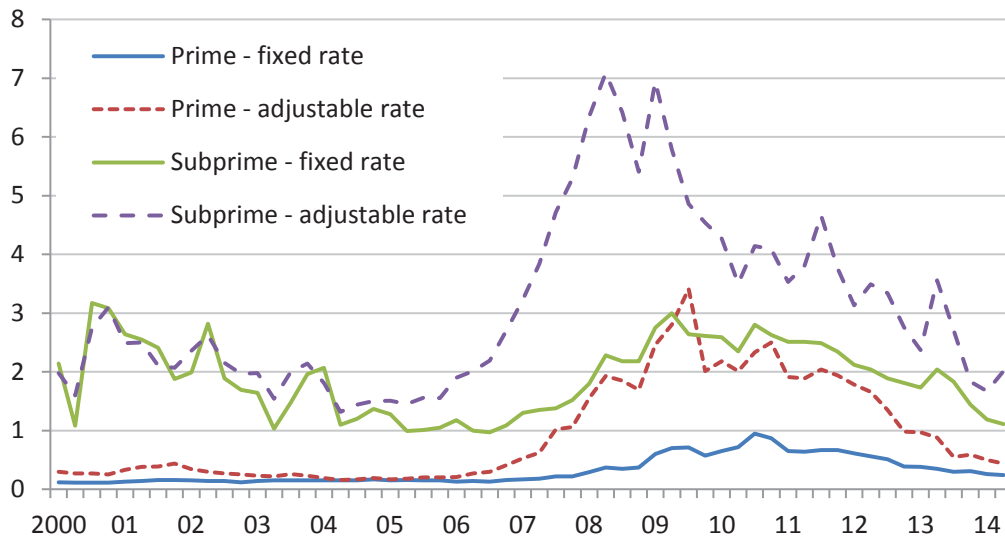
Figure 6. Arrears and possessions in the United Kingdom
Per cent of outstanding mortgages



Source: Council of Mortgage Lenders.

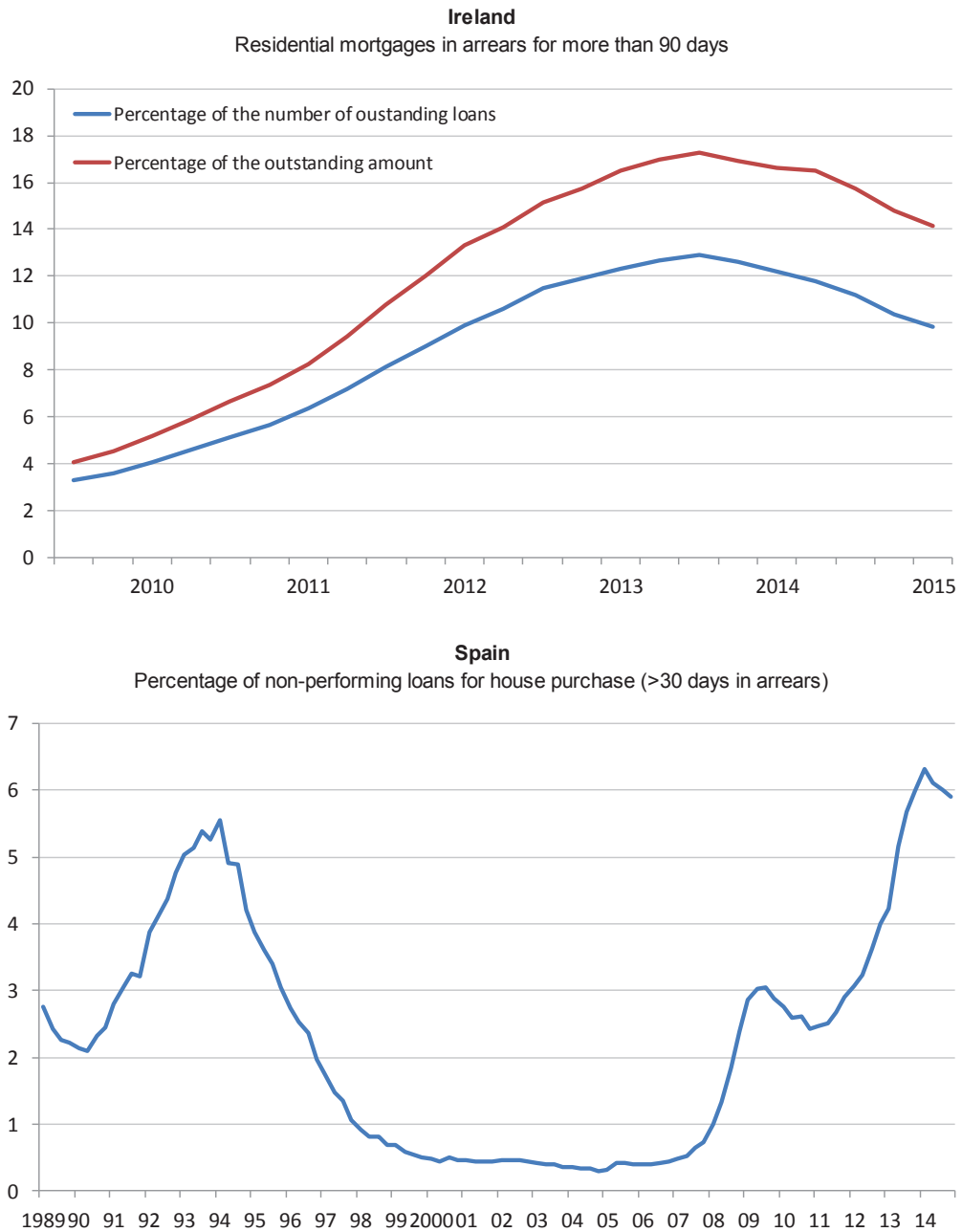
Figure 7. Foreclosures in the US prime and subprime markets

Foreclosures started per quarter as a percentage of outstanding mortgages in each category



Source: Thomson Reuters Datastream.

Figure 8. Arrears in Ireland and Spain



Source: Central Bank of Ireland and Bank of Spain.

Another area which deserves close monitoring is lending to the construction industry and real estate developers. Historically, during most recessions associated with tumbling housing prices, financial institutions' losses related to commercial property mortgages and loans to developers have been much higher than those on residential mortgages. During the latest downturn, non-performing loans have weighed heavily on the Irish and Spanish

banking sector and public finances, as governments stepped in to rescue distressed financial institutions. In Ireland, the government set up in late 2009 the National Asset Management Agency (NAMA), a state bank restructuring agency, which acquired 11 500 property development-related loans, with a nominal value of €72.3 billion (46% of GDP) at an average haircut of 58%. Subsequent capital injections added to the gross direct fiscal cost of the banking crisis. The net long-term fiscal cost of bank recapitalisation, although still very uncertain, is now estimated at about 22% of GDP (Honohan, 2015). Spain launched SAREB (Sociedad de Gestión de Activos procedentes de la Reestructuración Bancaria) in July 2012 to remove distressed real estate assets from the balance sheets of troubled financial institutions. SAREB, of which 55% are owned by the private sector and 45% by the government (through the FROB, Fondo de Reestructuración Bancaria), received nearly 200 000 assets for an amount of €50.7 billion euros (about 5% of GDP), of which 80% are financial assets and 20% property.

Drivers of household debt

Debt and housing prices tend to move together

Mortgages account for the bulk of household borrowing in OECD countries. Therefore, the focus in this paper is on the link between household debt and developments in the housing market. This does not imply, however, that consumer credit cannot be the source of serious problems for financial institutions. While amounts are much lower than for mortgages, consumer loans tend to be unsecured and more prevalent in the lower income categories of households. Hence, default rates and credit losses can be high, as illustrated by the Korean credit card crisis in the early 1990s (Kang and Ma, 2009; Jones and Kim, 2014). All forms of credit raise social and consumer protection issues.⁴ Nevertheless, from a macroeconomic perspective, mortgage debt is most important.⁵

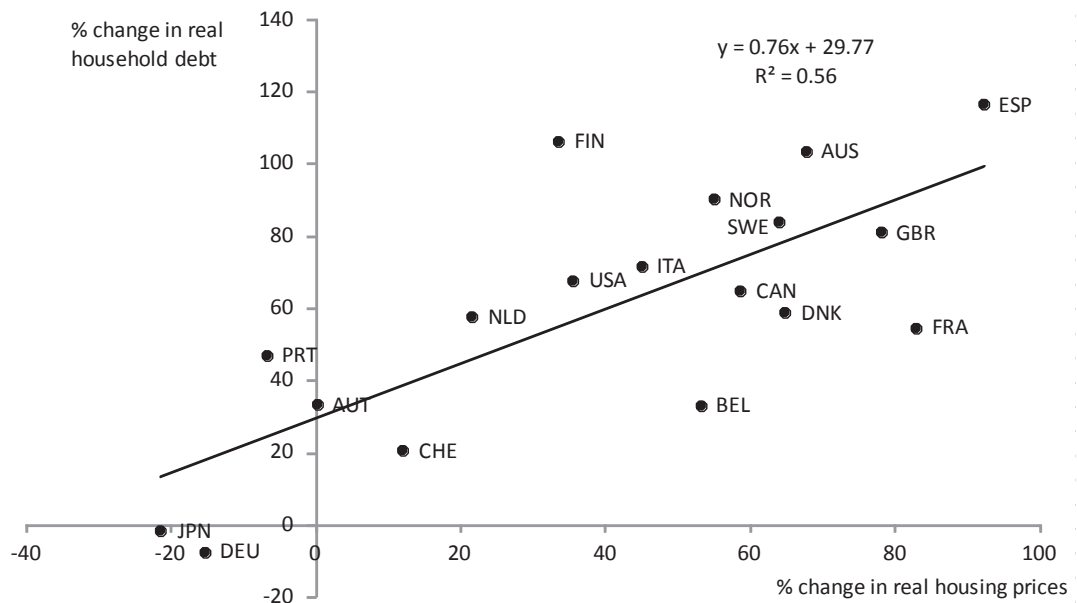
There is a strong correlation between variations in housing prices and in household debt (Figure 9). This is not surprising, as buying dwellings is the main motive for household borrowing. The causality is likely to run in both directions. On the one hand, higher

⁴ Such issues have been addressed by the OECD in its work on financial education and financial consumer protection, e.g. OECD (2009) and OECD (2011a); for more information see <http://www.oecd.org/daf/fin/financial-education/>.

⁵ Mortgage debt amounts on average to about two-thirds of household liabilities in OECD countries. This number understates the importance of mortgages for ordinary households, as loans to individual enterprises (unincorporated enterprises owned by households) are included in household debt in the National Accounts.

housing prices push households to take on bigger loans and increase the value of collateral which can be used to obtain credit. On the other hand, a loosening of borrowing constraints allows households to bid for more expensive homes. As supply is inelastic in many housing markets, at least in the short run, this pushes prices up. Recent literature provides evidence of these interactions. IMF (2011) documents the link between LTV ratios and house prices and credit growth for advanced economies. Duca et al. (2011) show that the easing of mortgage credit conditions in the early 2000s in the United States, reflected in higher cyclically-adjusted LTV ratios for first-time buyers, pushed up significantly housing price-to-rent ratios. Anundsen and Jansen (2013) estimate a structural vector error correction model (SVECM) for Norway over the period 1986Q2-2008Q4 and find a two way interaction between housing prices and household borrowing in the long run. Basten and Koch (2015) use exogenous shocks to immigration to identify the impact of housing prices on mortgage supply and demand in Switzerland, and find two-way causality between housing prices and mortgage debt. Fuster and Zafar (2014) provide survey evidence that willingness to pay for a home increases when required down-payments are lowered, especially among poorer and credit-constrained households.

**Figure 9. Growth in household debt and housing prices
2000-2007**



Source: OECD Economic Outlook database and national sources.

Housing prices are determined by a wide range of factors

The fundamental determinants of housing prices are well documented in the literature (e.g. Malpezzi, 1999; Meen, 2002; Girouard et al., 2006; Muellbauer and Murphy, 2008; Miles and Pillonca, 2008; André, 2010) and are only briefly recalled in this paper. The main fundamental drivers of demand are household income, interest rates, credit availability and demographics. Taxation, including property taxes and mortgage interest deductibility, also plays a role by affecting the user cost of housing (Poterba, 1984). The response of prices to changes in demand depends on the elasticity of supply, which in turn is affected by physical and regulatory constraints (Glaeser et al., 2005; Green et al., 2005; Caldera and Johansson, 2013). Models based on fundamentals tend to explain housing price developments fairly well in the long run. It is important to note, however, that having prices in line with fundamentals does not imply that large price variations should be ruled out. In fact, housing price determinants can be volatile and elasticities of housing prices to these determinants are often high. Hence, shocks to fundamentals can trigger large housing price reactions.

In the current low-interest rate environment, it is worth noting that the relation between interest rate and borrowing capacity is highly non-linear. Furthermore, the increase in borrowing capacity associated with a fall in the interest rate is larger the longer the duration of the mortgage. For the same reimbursement annuity, a 50-year mortgage at a rate of 4% allows borrowing almost three times the amount that could be borrowed at a rate of 12% over 20 years (André, 2015). However, a cap on LTV limits the expansion of borrowing capacity, as the increase in the required deposit is proportional to the increase in the loan amount. But during the boom which preceded the GFC, mortgage maturities were lengthened and LTV constraints eased in many countries. This illustrates how lower interest rates and financial innovation can interact to raise borrowing capacity considerably.

Although housing prices can be fairly well tracked by fundamentals over the long term, they tend to overshoot, in some case creating huge bubbles. There is strong evidence of extrapolative housing price expectations. Based on recent econometric estimates from several countries, Muellbauer (2012) argues that the rate of appreciation of housing prices over the past four years is a good proxy for the expected rate of housing price increase. Furthermore, momentum traders who believe it is a good time to buy a house because house prices will rise further, can have a sizeable effect on housing prices (Shiller, 2007; Piazzesi and Schneider, 2009). Real estate investors can amplify housing booms. For example, Haughwout et al. (2011) find that in the US states where housing bubbles developed in the

2000s, investors accounted for almost half of purchase mortgage originations at the peak of the cycle. Investors have also played an important role in housing market and household debt developments in Australia (Yates, 2011).

The prevalence of extrapolative price expectations has important implications for housing market dynamics. As supply is inelastic in the short term, given the time needed to build dwellings, an increase in demand pushes prices up. As prices rise, buyers with backward-looking price expectations tend to enter the market, pushing prices up further. A typical example is episodes of financial deregulation, which have often been followed by housing bubbles. A recent case is the introduction of interest-only loans in Denmark in 2003 (Lunde, 2007; Dam et al., 2011). The easing of borrowing constraints creates a housing demand burst. Competition for market share tends to induce lenders to take excessive risks. The supervision instruments suited to the new regime are not always in place. As a result credit grows briskly and housing prices increase sharply. The rise in the value of collateral allows more credits, a mechanism known as the financial accelerator (Kiyotaki and Moore, 1997; Bernanke et al., 1998; Aoki et al., 2002). Momentum traders and investors may inflate the bubble further. Such dynamic effects call for vigilance from policymakers when implementing measures which can be beneficial in the long term but entail significant transition risks.

The impact of an increase in demand for dwellings on the housing market and the economy varies with the elasticity of housing supply. In countries where supply is fairly inelastic (e.g. Australia or the United Kingdom), prices will stabilise rapidly at a higher level, assuming the shift in demand is permanent. In countries where supply is more responsive (e.g. Ireland, Spain or the United States), the combination of delays in supply responses – as building takes time, even in countries where supply is elastic – and backward-looking price expectations tends to generate a hog-type cycle. Housing prices and construction overshoot. Oversupply generates subsequent falls in housing prices and a collapse in construction (André, 2015). The cycle may be amplified by the behaviour of real estate developers taking advantage of local monopoly positions (Laszek and Olszewski, 2015).⁶ As loans to the construction and real estate sectors tend to generate heavy losses following housing market busts, rapid increases in housing prices associated with a fast

⁶ Lux and Sunega (2010) also show, using the case of the metropolitan housing market in Prague, that market inefficiencies emerging from the nature of interrelations between developers, construction firms and the producers of building materials can prevent housing supply from reacting effectively to changes in demand.

expansion of construction raises more concern among financial supervisors than those accompanied by limited increases in building activity. However, unless the increase in demand is purely temporary, low supply elasticity leads to a structural shortage of housing, which implies permanently higher housing prices. This leads to affordability problems, with associated social consequences. Furthermore, as higher housing prices tend to induce more borrowing, gross household debt will tend to increase, potentially creating risks for the stability of the financial system and the economy. Hence, an elastic housing supply is in general desirable. Nevertheless, policymakers should keep in mind the risk of overshooting in the case of a sudden demand spurt and be ready to take appropriate measures to dampen the construction cycle. Closely monitoring lending to building companies, real estate developers and investors is essential in that respect.

Household debt and financial and macroeconomic stability

Debt can increase welfare by allowing households to become homeowners, to finance purchases of durable goods and to smooth consumption. However, high indebtedness increases the vulnerability of households to adverse events, such as unemployment, drops in income or falls in housing prices. Some of these vulnerabilities may be mitigated by country-specific institutional features. For example, a high income-replacement rate over a long period in unemployment insurance will limit the risk of default associated with a job loss. The consequences of defaulting also vary across countries. For example, non-recourse loans in many US states allowed households in negative equity to escape debt, which was much more difficult in most other OECD countries. Different types of mortgage contracts (e.g. fixed vs. variable rates, local vs. foreign currency, interest-only vs. amortising) also entail different kinds of risks for households. Financial institutions, in addition to credit risk, face funding risks, notably in the presence of maturity and/or currency mismatches. Countries whose financial institutions can raise stable and long-term funding face lower risks for a given level of debt than those where short-term funding, especially from abroad, is prevalent. These considerations make it difficult to determine an optimal level of lending, which will vary across countries and through time. Moreover, the worst housing crises were not associated with the highest levels of debt. Conversely, rapid growth in debt is associated with risks of severe recession.

Financial stability risks

Excessive household debt can entail risks for financial stability. A major difficulty in assessing these risks is that they are mostly indirect. In a number of cases, large losses for financial institutions resulted directly from excessively risky lending followed by high rates of defaults. This was the case in the United States and a number of countries where foreign currency denominated mortgages were common. To some extent foreign currency mortgages transform currency risk into credit risk, as household facing much higher repayments after large currency depreciations present a higher risk of default.⁷ This is illustrated by the Icelandic crisis (Box 2). Nevertheless, direct credit risk is generally mild on residential mortgages, especially in countries with recourse loans. From a policy point of view, micro-prudential regulation and supervision should be able to limit such risks. Indirect risks play through different channels and are more difficult to control. The pro-cyclicality of the financial system combined with the housing market dynamics described above can generate housing bubbles. Financial institutions may accumulate assets with high risk correlations, thereby increasing their vulnerability to defaults or price falls. Commercial mortgages and loans to the construction and real estate sectors tend to be correlated and generate big risks, as illustrated recently by Ireland and Spain. As discussed below, housing market busts often generate outsized effects on the wider economy, which in turn cause defaults on both household and corporate loans, as well as losses on financial assets.

Risks are amplified by concentration. Banks in OECD economies are increasingly exposed to real estate. Jordá et al. (2014) show that, in a sample of 17 advanced economies, the share of mortgages in bank lending has roughly doubled over the past century to reach about 60%. Total bank lending has grown to 112% of GDP in 2007. Bank leverage hit a peak in 2007 and remains high by historical standards. High leverage partly reflects the perception that residential mortgages present low risks. There is, however, a paradox. On the one hand, banks perceive mortgage lending as safe because in most cases few households default, even when housing bubbles burst. On the other hand, mortgage lending can fuel housing bubbles, whose bursting may cause great damage to the economy and the financial system. This creates a major tension for policymakers, which is exacerbated in the current very low interest rate and abundant liquidity environment. As discussed below, macro-prudential tools can be used to address this challenge.

⁷ Similarly variable rate mortgages carry the risk of partially transforming interest rate risk for households into credit risk for financial institutions.

In addition to credit risk, the funding structure of mortgage lenders tends to be vulnerable, as they typically engage in maturity transformation. Mortgage loans generally have a very long duration, but they are often funded through relatively short term and unstable sources. Traditionally, banks used to fund a large fraction of mortgages through deposits, even though Denmark and Germany have used covered bonds for more than two centuries and the United States has used mortgage-backed securities for decades. However, mortgages have been increasingly funded through wholesale funding, particularly during the boom which preceded the GFC. While wholesale funding is not a problem in itself, maturity mismatches and opacity have created vulnerabilities.⁸

Box 2. The Icelandic crisis

Between 2004 and 2008, Iceland experienced one of the most spectacular boom-bust cycles in history, which resulted in the collapse of its three largest banks within days in October 2008. The housing boom, while sharing characteristics with contemporaneous or past housing bubbles in other countries, originated in a financing model which combined an impressive number of weaknesses, ranging from a rapid loosening of lending standards and weak financial regulation and supervision to large maturity and currency mismatches between assets and liabilities of banks. Mortgages were only one of the areas of unsustainable banking expansion. While mortgage debt amounted to slightly over 100% of GDP at the peak of the housing boom, the assets of the three major banks reached about 10 times GDP in 2008 (Guðmundsson, 2012). The housing boom started when the mortgage market was deregulated in 2004, leading to the entry of the recently privatised banks. Loan-to-value and mortgage amount limits were progressively increased. With low interest rates, rapid economic growth and a generous mortgage interest tax credit, demand for housing soared, pushing real prices up by more than 50% between August 2004 and October 2007 in the Reykjavik region (Skulason, 2012). Mortgage rates were generally linked to the consumer price index (CPI). From 2006 onwards, rising interest rates on loans in Icelandic krona led banks to increasingly offer mortgages linked to foreign currencies, notably the Japanese yen and the Swiss franc. As a result of foreign currency or CPI-indexation, the debt burden of households soared in 2008 when the krona depreciated by more than 50% in effective terms, pushing the inflation rate to about 17%. Nearly a quarter of homeowners had debt service exceeding 40% of their disposable income at the end of 2008. As housing prices declined, the share of homeowners in negative equity rose to close to 40% in 2010 (IMF, 2012).

The collapse of the three main banks compelled the government to establish new banks. Contrary to bank rescue operations in many other countries, where governments supported a large share of the losses, the Icelandic bank resolution left the creditors of the three major banks with heavy losses, amounting to €45 billion. Measures also had to be taken to restructure household debt,

⁸ For a comprehensive analysis of the strengths and weaknesses of different types of mortgage systems, see Campbell (2012).

which the devaluation of the krona, the associated inflation spike and the deterioration of the economic situation had made unsustainable. Social pressure on the government to provide relief to indebted households was strong. The first measures included a temporary moratorium on foreclosures and a temporary freeze of debt service pending rescheduling of payments on CPI and exchange rate-linked mortgages. Bankruptcy law was also amended to allow earlier exit, which increased the negotiating power of debtors against creditors. In June 2010, the Supreme Court ruled that linking loans denominated in krona to exchange rates was illegal and the principal of the loans was cut to the original principal plus accrued interests. The reduction on a loan amounted in some cases to as much as 50%. Meanwhile, many households with CPI-indexed mortgages were still struggling, and while freezing and rescheduling repayments provided short-term relief and some debt agreements were being restructured on a case-by-case basis, more systematic debt restructuring was needed for highly indebted households. In December 2010, the government and financial authorities announced a plan to allow writing off mortgage debt exceeding 110% of the property value under specific conditions. Overall, household debt written off amounted to more than 12% of GDP at end-2011 (Skulason, 2012). Such debt restructuring has undoubtedly helped the recovery of the Icelandic economy and the stabilisation of the housing market. While the Icelandic case illustrates the advantages of household debt restructuring, its relevance for other economies should not be overstated, as the costs were largely born by foreign lenders, which held a large share of bank debt.

The securitisation of subprime loans in the United States was accompanied by the creation of opaque financing chains involving structured financial products which became very difficult to value once it became obvious that defaults on subprime loans were set to increase dramatically. The underwriting and securitisation process was plagued by asymmetries of information, perverse incentives and conflicts of interest; lending standards were relaxed as risks could be transferred to investors; rating agencies receiving fees from the issuers of the securities they rated were inclined to underestimate risks; and compensation structures within financial institutions encouraged excessive risk taking and short-termism. Funding mechanisms encouraged unsustainable lending, which fuelled the housing bubble, and complicated the resolution of the crisis by increasing uncertainty about potential losses for financial institutions and investors, and by hampering debt restructuring. Furthermore, the opacity of financial structures contributed to the international spillover of the subprime crisis, even though the latter may only have been the spark that ignited the GFC, as it revealed widespread weaknesses in the global financial system (Kamin and DeMarco, 2010).

The case of the United Kingdom illustrates the vulnerability of mortgage lenders to maturity mismatches, even when mortgage arrears do not increase dramatically. UK

mortgage lenders had become increasingly reliant on wholesale funding, in particular via the securitisation of mortgages. In 2001, lending by domestic UK banks to non-bank borrowers was comparable to domestic deposits. By 2008, the funding gap between retail deposits and lending had grown to £738 billion (about 50% of GDP), with almost half of it filled by interbank deposits from abroad. Wholesale funding allowed very rapid growth in mortgage lending. For example, the average annual growth rate of loans by Northern Rock between 2001 and 2006 was over 30% (Onado, 2009). When the US subprime market collapsed, liquidity evaporated and demand for mortgage-backed securities vanished, leaving banks unable to fund their portfolios and the government was forced to bail out several prominent mortgage lenders (André, 2011).

Mortgage securitisation has been hit severely by the US subprime crisis. However, it can make a valuable contribution to housing finance, provided it is done in a sensible way (Buiters, 2009). The experience of securitisation of prime mortgages in the United States has been fairly positive for decades. Albertazzi et al. (2011) find a low probability of default in a large sample of Italian securitised mortgages, as banks have applied stringent underwriting standards to build up a reputation among investors. Overall, securitisation can be an efficient tool for mortgage finance, provided underwriting is sound and products are transparent, allowing investors to assess risks reliably. A requirement for issuers of mortgage-backed securities to retain a significant part of the risk can mitigate risks related to asymmetries of information.

Covered bonds are more widely used than mortgage-backed securities in several European countries. They are generally considered particularly safe for investors as they offer dual recourse to both the mortgage pool and the issuer. But as a consequence, they generate “asset encumbrance”, i.e. assets are not available to other creditors in the event of the bank’s insolvency. They are often over-collateralised on an ongoing basis, providing an additional guarantee to investors. European covered bonds performed relatively well during the financial crisis compared to asset-backed securities and senior bank debt (ECB, 2008; Blommestein et al., 2011; Campbell, 2012). There is nevertheless a need for continued vigilance to ensure that covered bonds remain very safe investments. On the side of banks, financing through covered bonds may still entail refinancing risks if the maturity of the bonds is short compared to that of the mortgages.

Macroeconomic risks

Housing affects economic and financial developments via several channels. Housing has a large macroeconomic impact through residential investment, employment and consumption, which is abundantly documented in the literature. Leamer (2007) argues that housing plays a prominent role in the US business cycle. A number of studies using structural vector autoregressive (SVAR) models also show strong spillovers between housing and the wider economy (Goodhart and Hofmann, 2008; Jarocinski and Smets, 2008; Iacoviello and Neri, 2010; Musso et al., 2011; André et al., 2012; Gustafsson et al., 2015). A number of studies analyse links between housing and credit and show that housing crises tend to be associated with financial crises and protracted recessions (Detken and Smets, 2004; ECB, 2005; Cecchetti, 2008; Claessens et al. 2008; Reinhart and Rogoff, 2009; IMF, 2011; Jordá et al., 2014). Sutherland and Hoeller (2012) explore the links between debt and macroeconomic stability and find that when private sector debt levels, particularly for households, rise above trend the likelihood of recession increases. Furthermore, when debt levels are high, recessions tend to be more severe.

Several studies have found an impact of housing wealth on private consumption, which tends to be larger in countries with the most sophisticated mortgage markets, in particular Anglo-Saxon countries and the Netherlands (Catte et al., 2004; Lettau and Ludvigson, 2004; Ludwig and Slok, 2004; Case et al., 2005; Muellbauer and Murphy, 2008). The correlation between estimated propensities to consume out of housing wealth and the completeness of mortgage markets and particularly the possibility of housing equity extraction, points to the role of collateral. The pure aggregate housing wealth effect should in theory be small. Increases in housing wealth are offset by the increase in the value of future rents and only distributional effects across households with different propensities to consume affect aggregate consumption in the absence of borrowing constraints. But the increase in collateral allows credit-constrained households to borrow against the value of their home and raise their level of consumption. When house prices fall, this effect is reversed and highly indebted households are forced to reduce consumption and to deleverage, as they are unable to raise new loans.

Recent studies using sub-national or micro data confirm the strong relation between household balance sheets and consumption. Most of them attribute a key role to credit constraints in this relation. Dynan (2012) shows that highly leveraged US households reduced consumption more than other households between 2007 and 2009, despite

experiencing smaller changes in net worth. Mian et al. (2013) find that the marginal propensity to consume out of housing wealth is highest in areas of the United States with poorer and more leveraged households, which are facing the tightest credit constraints. Aladangady (2014) finds that US households with a high debt service ratio have a high marginal propensity to consume out of housing wealth, contrary to those with a low debt service ratio. This can be seen as evidence of the importance of the collateral effect, as opposed to the pure wealth effect, in the relation between housing wealth and consumption. Baker (2014) finds that high indebtedness increases the sensitivity of consumption to income shocks among US households and that this result is largely related to borrowing and liquidity constraints. Bunn (2014) finds that highly indebted households in the United Kingdom cut spending more than less leveraged ones after 2007, reversing stronger pre-crisis consumption growth. He presents survey evidence that lower spending was associated with a combination of tighter credit constraints and concerns about ability to make future debt repayments. Lau Andersen et al. (2014) find that highly leveraged Danish households also reduced consumption more than less leveraged ones after 2007, correcting unsustainable pre-crisis consumption levels. The relation between leverage and subsequent consumption growth is non-linear, with negative correlation found above a LTV ratio of 40%. Interestingly, the authors find little evidence that the correlation between leverage and consumption in Denmark is driven by credit constraints and rather emphasise the role of precautionary savings and revisions to income expectations when the crisis hit. Van Beers et al. (2015) find a negative relation between house price changes and savings in a large panel of Dutch households over the period 2006-11, with the strongest response for young households with negative equity, consistent with the presence of credit constraints.

Policy responses

Different classes of policy instruments can be used to prevent excessive increases in household debt. Sound micro-prudential regulations and supervision is essential. However, the pro-cyclicality of the financial system and risks related to correlated exposures across institutions and interconnections call for macro-prudential tools to complement micro-prudential measures. The border between micro- and macro-prudential instruments is sometimes fuzzy. Many macro-prudential instruments have their origin in the micro-prudential toolkit, but may be used not only to ensure the safety of individual financial institutions, but also to influence aggregate debt development to prevent systemic and macroeconomic risks. Many reforms are currently being implemented to reinforce the

stability and resilience of the financial system, including Basel III regulations and a wide range of country-specific measures. In this paper, the discussion is limited to the aspects of these reforms which are most directly related to the issue of household debt. Monetary policy is a blunt tool to control household debt developments, but may be used in cases where this does not conflict with inflation and output stabilisation. Structural features of housing markets may amplify or dampen the impact of financial shocks on household debt. A holistic approach to housing issues is needed to achieve at the same time financial stability and decent housing conditions for all.

Micro-prudential policy

The boom period preceding the GFC saw a relaxation of lending standards in many OECD countries. The US subprime market was an extreme case, where the ability of many borrowers to repay their loans depended on ever rising housing prices and the possibility to refinance mortgages at a lower interest rate. On a much smaller scale, “equity lending”, which puts more weight on the value of collateral than on the repayment capacity of borrowers, also expanded in the United Kingdom, where it was driven by non-bank lenders, and resulted in high arrears (FSA, 2009). The “equity lending” model is clearly unsustainable and lenders should make sure borrowers have the financial capacity to repay their loans out of income or by selling assets under plausible conditions. During the boom, documentation of income and assets of borrowers was often neglected. Going forward, financial authorities need to make sure lending standards are sound, both in the bank and non-bank sectors. It is important that originators of loans do not face incentives encouraging excessive risk taking. Requiring more transparency and reinforcing consumer protection and financial education also encourages sound lending and borrowing practices.⁹

In a period of very low interest rates, variable mortgage rates may induce households to take excessively big mortgages if they fail to take into account that interest rates are likely to rise at some point during the life of the mortgage. It is often argued that fixed rate mortgages are preferable for this reason. However, fixed-rate mortgages have their own drawbacks. Cuts in policy rates provide relief to borrowers with variable-rate mortgages. As discussed earlier, this has played a role in limiting defaults in many countries. With fixed rates, the

⁹ A detailed analysis of housing finance systems is beyond the scope of this paper. Lunde and Whitehead (2015) provide a comprehensive review of housing finance in 21 countries, mostly European. Lea (2010) provides a comparison of mortgage product offerings in 12 major advanced countries.

transmission mechanism is weaker. In some cases mortgages can be refinanced at lower rates, but there may be obstacles. In the United States, many mortgages fell into negative equity after 2007, preventing refinancing. In some countries, such as France, there are pre-payment penalties. If such penalties do not exist, financial institutions may be exposed to pre-payment risk.¹⁰ On balance, it is not obvious that either type of mortgage should be preferred and measures distorting the choice of borrowers should probably be avoided, as the most suitable product depends in part on the profile of the borrower (Miles, 2004). One way to avoid that households take on excessive debt when interest rates are low in countries where variable rates are predominant is to make affordability calculations using as a benchmark a fully amortising loan of a reasonable duration at a representative long-term rate. This method has, for example, been recommended by the Finnish Financial Supervisory Authority and required for insured mortgages in Canada.

Some features of mortgages tend to be associated with higher default risks, although the correlation is far from perfect, as individual characteristics of borrowers are critical. High loan-to-value (LTV) ratio loans increase the probability that households fall into negative equity. Regulatory caps on LTV are in place in a number of countries and in some others regulator or industry guidelines recommend a maximum LTV (see below for the macro-prudential use of LTVs). Limits are also imposed for mortgages included in covered bond pools. Low LTV ratios create a buffer for borrowers in case housing prices fall. However, they penalise first-time buyers. Caps on LTV can often be circumvented through the use of consumer credit or second lien mortgages to finance the requested deposit. For example, at the peak of the housing market in the United States, 45% of home purchases in coastal markets and bubble locations involved a second lien (Lee et al., 2012). A national credit register recording all loans may be necessary to avoid circumvention of lending limits (IMF, 2014). Caps on loan-to-income (LTI) or debt-to-income ratios (DTI) also exist in some countries. Analysis of the UK mortgage market suggests that from a micro-economic point of view caps on LTV, LTI and DTI are not a very efficient way to reduce mortgage risk and come at the cost of denying access to credit to some households who could afford it (FSA, 2009). A more flexible way to contain risks is to impose higher capital requirements or mortgage insurance for high LTV loans. Making insurance compulsory for some types of loans removes the risk of adverse selection. Insurance schemes still need to be designed to

¹⁰ However, this is not always the case. In Denmark a fixed-rate loan can be prepaid at par. The fixed-rate loan contains a call option, which is paid for by the borrower through a higher interest rate. The loan can also be bought back at market value (Lunde, 2015).

mitigate moral hazard. As discussed below, caps on LTV, LTI and DTI are sometimes used as macro-prudential instruments.

A number of mortgage product characteristics should be monitored carefully, especially when they are used to increase borrowing capacity. Some products designed for a niche market have tended to spread to a wide customer base during the latest boom, as they allowed increasing affordability, albeit at the cost of higher risks than traditional mortgages, both for borrowers and lenders. For example, loans with deferred repayment may be suited for young professionals with good prospects of rising income. However, they have sometimes been extended to borrowers with very uncertain ability to repay in the future. Low-documentation loans have traditionally been granted to self-employed who could not document a steady stream of income. But they were also extended to salaried workers, creating an incentive to overstate their income if not properly checked. Indeed, according to the UK Financial Services Authority, for 49% of all UK regulated mortgage sales in 2007, incomes were not verified (FSA, 2009). Foreign currency mortgages are suited for borrowers with revenue in foreign currency, but were increasingly extended to domestic currency income earners in order to take advantage of lower foreign currency interest rates, making these borrowers vulnerable to exchange rate risks.¹¹ In some Central and Eastern Europe countries they accounted for a large fraction of originations before the GFC. Interest-only mortgages tended to be used in combination with savings products, mainly for tax reduction. In countries where mortgage interest is tax deductible, there is an incentive to defer the repayment of the mortgage. In order to ensure that the borrower builds up capital to repay the loan at some point, savings can be accumulated in investment products (which sometimes also benefit from tax advantages). In 1995, 69% of new mortgages in the Netherlands were interest-only, of which only 14% were not associated with an investment product. The corresponding numbers for the United Kingdom were 62% and 10%. In 2006, interest-only mortgages accounted for nearly 88% of new loans in the Netherlands, of which 44% were not associated with an investment product. In the United Kingdom, as mortgage interest deductibility had been phased out, interest-only loans accounted for only 24% of new loans, but most of them (20%) were not coupled with an investment vehicle (Lunde et al., 2008). This suggests that during the boom many borrowers chose interest-only loans for affordability reasons and had unclear repayment strategies.

¹¹ In some countries (e.g. Austria), borrowers in foreign currency were obliged to subscribe to a savings plan tied to the loan agreement in order to build up a buffer against exchange rate risks.

These examples show that risks relate more to mismatches between the products used by some households and their financial capabilities and ability to bear risks, than to the products themselves. Narrowing the range of products financial institutions may distribute entails welfare costs, as this will eliminate products which are likely to be suitable for some categories or borrowers. Furthermore, bans on products (be it mortgage-related or other products) may be easily circumvented through financial engineering or supplied by institutions outside the regulatory perimeter. Conversely, there is a risk of stifling the development of new products. While financial innovation can entail risks, some new products could meet borrowers' needs better than those currently available and bring more stability to housing finance (Miles and Pillonca, 2008; Shiller et al., 2011). More flexible measures, such as restrictions on use, underwriting guidelines and incentives may be more efficient. For example, bank regulators in Poland have requested tighter underwriting conditions for foreign-currency loans. Consumer protection regulation has also an important role in preventing unsustainable mortgage lending.¹² Policy makers should take into account that taking out a mortgage is one of the most important and financially significant decisions to be made by a consumer during their lifetime.¹³

In addition to monitoring lending standards, regulators need to make sure mortgage lenders and insurers have adequate capital and liquidity buffers. In particular, the resilience of funding models needs to be evaluated carefully in a world where capital flows are volatile. Large maturity and currency mismatches should raise concern. While some institutions may be vulnerable because of their own business model, weaknesses may also result from systemic risks. This justifies complementing micro-prudential regulations by macro-prudential policies.

¹² Even more than residential mortgages, commercial mortgages and loans to developers and construction companies require close scrutiny. As noted earlier, such loans have often generated high losses when a housing bubble burst. It is an area where the financial accelerator can be quite strong. As the value of property rises during a boom, real estate developers see the value of their collateral increase and can often secure additional loans. Such collateral concentrated in overvalued real estate provides little guarantee. But during booms with strong competition for market share among lenders, commercial considerations often tend to dominate risk management concerns. The recent Irish boom provides a concrete example of this mechanism at play (Carswell, 2011).

¹³ In the United Kingdom, for example, it became clear that at the peak of the mortgage market in 2007, while the market had worked well for many consumers, it had also been a cause of hardship for others. The regulatory framework in place at the time had proved ineffective in constraining particularly high-risk lending and borrowing. In response the regulator, the UK's Financial Conduct Authority, introduced in 2014, under the Mortgage Market Review, a package of reforms aimed at ensuring continued access to mortgages for the majority of consumers who can afford them, while preventing a return to the poor industry practices of the past ensuring that, for example, that lenders are now responsible for assessing whether a consumer can afford the mortgage.

Macro-prudential policy

Since the GFC, which has highlighted the role of systemic linkages in the build-up of financial imbalances and the propagation of shocks, there is a growing consensus in favour of macro-prudential policies among academics and policy makers (Hanson et al., 2011; Galati and Moessner, 2011). In addition, the current very low interest rates and abundant liquidity risk fuelling asset bubbles. Housing prices are rising fast in countries with fairly solid economies, like Australia, Canada, Norway and Sweden. As policy rates are being kept low to support the economy and in some cases fight deflation, other instruments are needed to rein in unsustainable increases in debt. Nevertheless, macro-prudential policies are largely untested in advanced countries and building an effective macro-prudential policy framework is a major challenge. Emerging economies have used macro-prudential tools more than OECD countries and some lessons may be drawn from their experience.¹⁴

Macro-prudential policy is meant to address systemic fragilities. More precisely, it aims at mitigating a fundamental market failure. Individual financial institutions generally fail to appreciate the impact of their actions on the financial system as a whole and the risks related to correlated exposures and interconnectedness. De Nicolò et al. (2012) identify three externalities, whose correction they see as intermediate targets to mitigate market failures which generate systemic risk. First, strategic complementarities – e.g. increased competition during booms, incentive structure of bank managers, prospect of a government bailout – induce financial institutions to take excessive or correlated risk during cyclical upswings, amplifying credit and liquidity cycles and asset price volatility. Second, externalities arise from fire sales during a contraction, which weaken balance sheets and may degenerate into a negative spiral between asset prices and balance sheet contraction. Third, interconnectedness propagates shocks through financial networks in which systemically important financial institutions (SIFIs) play a major role. These externalities can be reduced using a wide variety of instruments. Some are general, such as counter-cyclical capital buffers, limits on bank leverage or reserve requirements. Others are targeted at specific areas. This paper focuses on macro-prudential measures specifically targeting household debt. These are especially relevant, as mortgage lending is generally perceived as

¹⁴ Kuttner and Shim (2013) provide a systematic analysis of the effectiveness of non-interest rate policy tools in stabilising housing prices and credit, using a panel of 57 advanced and emerging economies. They find some evidence of an impact of changes in the maximum debt-service-to-income and LTV ratios, limits on exposure to the housing sector and housing-related taxes on housing credit growth. However, only housing-related taxes are found to significantly affect increases in housing prices.

a low-risk activity by banks, but often accounts for a large share of banks' balance sheets and can fuel housing bubbles, whose bursting historically led to deep and protracted recessions.

The most widely used instrument targeting household debt directly is a cap on LTV ratios, which exists in about half of advanced economies and an even higher proportion of emerging countries (Mitra, 2015). In some instances, it is complemented by debt-to-income or debt service-to-income limits. However, in most cases it is not used as a macro-prudential tool, i.e. it is not adjusted in a dynamic way to take into account evolving risks. Nevertheless, a number of experiences suggest a LTV cap can be a useful macro-prudential tool:

- Hong Kong, China¹⁵ has been, since the early 1990s, one of the most active users of LTV caps as a macro-prudential tool to prevent the build-up of systemic risk and dampen housing market fluctuations. Motivations for using macro-prudential tools include a currency peg with the US dollar, which constrains monetary policy, and volatile capital flows. The maximum LTV ratio is the main instrument. It varies with the value of the property and is complemented by other tools, such as a maximum debt servicing ratio. Macro-prudential policy has been successful in reducing household leverage and containing delinquencies following housing price falls. The impact on housing market fluctuations seem to have been more modest. Mortgage insurance programmes, which allow higher LTVs for insured mortgages, have mitigated the liquidity constraint on first-time buyers (Wong et al, 2011).
- Korea has actively used LTV limits since 2002 and DTI limits since 2005. These limits vary with the type of area (e.g. speculative, metropolitan), the value of the housing unit and some characteristics of the loan or the borrower. Over time the limits were extended from covering banks and insurance companies to all financial institutions to avoid circumvention. LTV and DTI caps appear to have dampened transaction and housing price increases. LTV tightening seems to have a greater effect on prices than DTI tightening. Interestingly, rising LTV caps seems to lower house price expectations and to affect investors more than first-time buyers (Igan

¹⁵ Hong Kong, China is included in this paper even though it is not an OECD member (it is, however, participating in the OECD Committee on Financial Markets), as its early use of macro-prudential tools provides useful insights into the impact of such instruments.

and Kang, 2011). This finding is important given the role of expectations in the formation of housing bubbles and the usual concern that LTV caps may disproportionately harm first-time buyers. It is also important to note that Korea's housing policies, in particular measures to improve affordability by stimulating the supply of housing, have also contributed to stabilise housing prices and facilitated the task of macro-prudential policies.¹⁶

- New Zealand has introduced in 2013 a limit on the share of high-LTV new mortgages, in response to strong increases in housing prices. Banks are not allowed to issue more than 10% of new residential mortgages with a LTV over 80%. This “speed limit” approach provides flexibility for banks to extend high LTV loans to some customers with a suitable risk profile, while containing risks to financial stability (Spencer, 2013). Besides, minimum risk weights on high-LTV mortgages have been increased. Increases in housing prices have slowed significantly following the implementation of these measures.
- Canada requires mortgage insurance for residential mortgages with a LTV ratio above 80%. As housing prices continued rising rapidly, prudential regulations on government-backed mortgage insurance were tightened in several steps since 2008. In particular, the maximum LTV ratio was reduced from 100% to 95% (80% for investment and refinancing), the maximum amortisation period was reduced from 40 to 25 years, and the five-year fixed-rate mortgage was imposed as the benchmark for evaluating repayment capacity. These measures seem to have pushed banks to reduce their share of high-risk mortgages (Cheung, 2014). They also seem to have slowed overall mortgage credit growth and housing price appreciation (Krznar and Morsink, 2014). Nevertheless, housing prices have continued to increase and may have been overvalued by 10% to 30% in the third quarter of 2014 (Bank of Canada, 2014).
- Some Nordic countries have also moved towards lower LTV limits. Sweden has imposed an 85% cap in 2010. Mortgage debt growth has slowed after the introduction of the cap and stress tests suggest that the resilience of households to

¹⁶ Strong growth in household debt, partly fuelled by cuts in interest rates, prompted the Financial Service Commission to announce new measures in July 2015 to encourage the amortisation of mortgages and contain risky lending by non-bank financial institutions, which will become effective in early 2016.

various shocks has increased (Braconier et al., 2014). The Financial Supervisory Authorities of Finland and Norway have also lowered their recommended maximum LTVs to respectively 90% and 85%. Denmark has had a maximum LTV of 80% for residential properties since the end of the 1980s and lower LTV limits for other type of properties (Lunde, 2015).

- Israel has limited the LTV ratio to 75% for first-time buyers and to 50% for investors since November 2012. These caps are complemented by limits on the variable rate component of loans, a 50% limit on the payment-to-income (PTI) ratio, a maximum loan term of 30 years, higher capital requirements for the riskiest loans and a supplementary reserve requirement for housing loans. These measures have led to a decline in the share of variable-rate mortgages and average LTV and PTI ratios and to higher mortgage rates. As of mid-2015, real housing prices had decelerated somewhat.

Beyond the LTV at the origination of the loan, an important consideration is the evolution of the LTV over the life of the loan. With amortising loans, the LTV ratio will tend to decrease steadily, barring sharp housing price falls. In other words, only recent mortgages will have a high LTV ratio. But in many countries, amortisation periods are very long. In some interest-only loans are prevalent. Then, the whole mortgage portfolio is large compared to the value of housing assets and households have narrow equity buffers. They risk falling into negative equity if prices decline. For example, in the Netherlands, where interest-only loans make up a large share of the mortgage stock, about 40% of households were in negative equity in 2013 (Kierzenkowski et al., 2014). In countries with recourse loans, negative equity may not trigger many defaults. Nevertheless, it lowers collateral and may also lock in some households in their dwellings. Another concern is that households may take out debt they will have difficulties to repay. As noted earlier, households may accumulate financial assets and thus reduce their net debt. But this is not necessarily the case. Hence, low amortisation entails risks for lenders. As discussed earlier, indebted households tend to reduce consumption more than others when facing an economic shock, which can amplify cyclical fluctuations. Hence, some countries are trying to encourage amortisation. The Netherlands has recently restricted mortgage interest tax deductibility to amortising loans. The Swedish Financial Stability Authority has encouraged amortisation and has proposed a formal requirement to amortise for mortgages with a LTV over 50%, although this has been blocked by a recent court ruling (Berg and Hansen, 2014).

Higher minimum risk weights on residential mortgages can also rein in mortgage lending by increasing capital requirements for banks, which are likely to push up mortgage rates somewhat. As default rates on mortgages are low in many countries, risk weights determined through internal bank models are also low. But systemic risk can justify higher risk weights. Therefore, some financial authorities have increased minimum risk weights on mortgages (or some categories) in recent years, notably in Belgium, Israel, New Zealand, Norway, Sweden, Switzerland and Hong Kong, China.

Dynamic provisioning has been used in Spain since 2000. It allows banks to build financial buffers during booms. It also provides investors with a more realistic view of banks' risk-adjusted returns, mitigating incentives for excessive risk taking. Another advantage of the system is that it can be rule-based, which avoids the difficult choice of the timing of activation. It is, however, difficult to calibrate as history can be a poor guide for future losses. In Spain, it has enhanced the resilience of banks during the downturn, even though it was not enough to cover all losses (Saurina, 2009). But it has been unable to prevent a huge housing boom.

As shown earlier, foreign-currency loans experienced high default rates in some Central and Eastern Europe countries following currency depreciations. While foreign-currency loans avoid a currency mismatch for banks financing themselves in foreign currency, the credit risk is increased by the vulnerability of the borrower to large currency depreciations. Moreover, a low interest rate in a foreign currency may bias perceptions of affordability. Hence, there is a strong case for applying tighter prudential standards for foreign-currency loans. Brzoza-Brzezina et al. (2014) show that, under plausible assumptions, regulations restricting foreign currency lending enhance welfare, even though they may have a short-term negative impact on economic activity.

Macro-prudential policy can also mitigate liquidity risk, by directly imposing liquidity requirements, or by using other instruments to restrain credit growth when liquidity risks appear to threaten financial stability. Housing booms have often been financed by inflows of foreign capital, which tend to be volatile. A strong correlation between increases in real housing prices and changes in the current account deficit was observed across a wide sample of advanced and emerging economies in the years preceding the GFC (Obstfeld and Rogoff, 2009). Vulnerabilities associated with capital inflows may also arise in the absence of current account imbalances, which only account for net flows while gross flows are also

important in the build-up of financial imbalances (Borio and Disyatat, 2011; Ramskogler, 2015).

Implementing macro-prudential policies raises a number of additional challenges. Some instruments, like dynamic provisioning, once put in place act as automatic stabilisers. However, most instruments will require timely adjustments reflecting the evolution of risks. The complexity and innovation capacity of the financial system make the setting of rules for intervention particularly challenging. Hence, policymakers have to rely mostly on discretionary measures. This raises a number of questions. The first is about institutional settings. In many countries, the central bank has the primary responsibility for macro-prudential policy, but other countries have chosen other arrangements. For example, in Sweden the main responsibility lies with the Financial Supervisory Authority. The discussion of the merits of different institutional settings, which are largely country specific, is beyond the scope of this paper. Nevertheless, it is important to stress that, as macro-prudential policy interacts with micro-prudential, monetary and macroeconomic policies, coordination between the institutions involved is essential.

A second issue is about the trigger for implementing macro-prudential measures. Financial imbalances are difficult to evaluate in real time. Looking specifically at housing booms, which are often associated with rapid increases in household debt, identifying unsustainable developments is not straightforward. Prior to the latest cycle, only about 60% of large real housing price upswings in a sample of 18 OECD countries since 1970 ended in a bust (Girouard et al., 2006). Recently, housing prices stabilised at a high level in many countries. Housing price-to-rent and price-to-income ratios are useful indicators of potential overvaluation, but even though they tend to revert to their long-term average over the long run, they are generally non-stationary, even when allowing for long memory processes (André et al., 2014). These ratios are affected by interest rates and structural features of housing markets, like urbanisation trends, supply responsiveness and taxation. Construction booms point to high risks, as very few are followed by a soft landing (Hoeller and Rae, 2007). Furthermore, as already mentioned, collapses in construction are often associated with high losses for banks. Thus, episodes where housing prices and construction both rise rapidly warrant particular vigilance. The literature also points to the association of high credit growth, abundant liquidity and fast increases in property prices as an early warning for financial crises (Alessi and Detken, 2009; Borio and Drehmann, 2009; ESRB, 2014; Dreger and Kholodilin, 2015). Beyond uncertainty, political economy considerations may

hamper the implementation of macro-prudential policies, which have costs for the economy – e.g. lowering output growth and employment – or specific groups – e.g. first-time buyers, banks or homebuilders. Finally, macro-prudential policies should operate in a symmetric way, i.e. be loosened when risks are receding (ESRB, 2014).

A third issue is the risk of circumvention of macro-prudential measures. The risk of circumvention through cross-border banking and other forms of external financing is a particular concern in advanced and open economies (Cerutti et al., 2015). Targeted macro-prudential measures, such as LTV and DTI caps are more effective to rein in household debt than broader measures, such as capital requirements. However, they may be easier to circumvent. Developments in shadow banking and cross-border lending in response to tighter banking regulations should be monitored carefully (OECD, 2015).¹⁷ The regulatory perimeter should encompass all institutions susceptible of generating systemic risk.

Monetary policy

Before the GFC, there was a broad consensus that monetary policy should focus exclusively on inflation at a horizon of around two years and possibly output or employment stabilisation depending on the specific mandate of the central banks (Galati and Moessler, 2011).¹⁸ Views have evolved somewhat since the GFC (Yellen, 2009). Nevertheless, it remains that monetary policy is a blunt tool to deal with rapid rises in housing prices and household debt. There may be a case for tightening monetary policy – more than was done in recent years – when large increases in housing prices coincide with a solid economic expansion. Even then, monetary policy may not be the right tool to avoid housing bubbles. The interest rate hikes needed to stop a housing boom may be too big to be implemented without an excessively large impact on output, employment and inflation. In addition, housing bubbles often take place in a limited part of a country or monetary area. For example, before the GFC, such bubbles in the United States were located mainly in Arizona, California, Florida and Nevada. Similarly, developments varied across euro area countries, with housing bubbles in Ireland and Spain and flat or even declining housing prices in

¹⁷ Monitoring of the shadow banking sector is being undertaken by the Financial Stability Board (e.g. FSB, 2015).

¹⁸ This view was, however, challenged by some economists (Cecchetti et al., 2002; Roubini, 2006; White, 2006) and some central banks explicitly took into account housing price developments in their decisions at some point (e.g. the Reserve Bank of Australia and Sweden's Riksbank).

Germany. Using monetary policy to moderate housing price increases in this context is bound to be quite ineffective and to entail substantial costs in terms of economic activity.

At the current juncture, a number of countries are experiencing high and rising housing prices and household debt as well as sluggish output growth and deflation risks. In this situation, the use of monetary policy to rein in household debt would be in contradiction with its core objectives. It would weaken the economy and entail risks of de-anchoring inflation expectations. Hence, the monetary and financial authorities have to rely mostly on macro-prudential measures to keep household debt in check, although tax and housing market reforms could also help in some cases.

When economies move back towards a steady growth path, with inflation close to target, extraordinary monetary policy measures (e.g. quantitative easing) undertaken in response to the crisis will need to be pared back. Nevertheless, there will be a continued need to assess monetary policy measures within a policy mix to ensure household debt sustainability. For this, a number of factors have to be taken into account, including the level of systemic risk, the cost of crises associated with high leverage and the effectiveness of more targeted instruments, notably macro-prudential. Countries where housing price spillovers to the wider economy are strongest should consider resolute action, including macro-prudential, monetary, fiscal and structural measures, to avoid unsustainable construction and/or consumption expansions.

Housing policies

An extensive discussion of structural housing policies is beyond the scope of this paper.¹⁹ However, it is essential to recognise that structural features of housing markets and policies may greatly complicate the task of monetary and financial authorities in stabilising the housing market and ensuring the sustainability of household debt. Hence, improved housing policies can yield a double dividend, as they increase well-being and economic efficiency, while contributing to financial stability. Over recent decades, policies have often pushed up demand, for example through favourable taxation of housing, housing allowances or encouraging the supply of mortgages, especially to low-income households who could not always afford them. At the same time, in many countries, urbanisation, tight land-use planning regulations and lack of investment in infrastructure have blunted the supply response. In addition, rental regulations have hampered the development of the private

¹⁹ For a discussion of housing policies in OECD countries, see OECD (2011b).

rental market in some countries (De Boer and Bitetti, 2014). The supply of affordable or social housing is in some places insufficient to ensure access to housing for the less affluent part of the population. The GFC has worsened supply-demand imbalances for affordable housing, as stagnation or falls in income and higher unemployment have increased demand for affordable and social housing, while public supply has been hurt by tighter budget constraints and private construction has suffered from uncertainty and tighter financing constraints (Rosenfeld, 2015; Salvi del Pero et al., 2016).

Conclusion

Household debt may entail risks for households, the financial system and the wider economy. Hence, it needs to be watched closely. However a high level of debt is not a sufficient indicator of risk. A more disaggregated examination of the distribution of liabilities and assets across households is needed to assess risks to financial stability and the macroeconomy. Financing structures for mortgages also need to be monitored carefully, as maturity and currency mismatches can entail big risks for financial institutions. In a number of countries, loose underwriting standards for mortgages were directly at the origin of financial distress, but in many others the sources of vulnerability were more systemic. This suggests that sound micro-prudential policies, although imperative from both a financial stability and consumer protection perspective, are not enough to contain financial risks. At the current juncture, accommodative monetary policy is needed in most OECD countries to support the economy and bring inflation back to target. Exceptionally low interest rates may encourage the build-up of excessive household debt and create housing price bubbles. Macro-prudential policy should mitigate this risk, but this remains a challenge, as experience in implementing macro-prudential measures is limited and the development of the macro-prudential framework is still work in progress. Unsustainable developments in household debt are not only a potential threat to financial stability, they also have an impact on the macroeconomy, notably through private consumption and construction activity, which strengthens the case for preventive action. Finally, a number of OECD housing markets suffer from structural weaknesses, which makes stabilisation of household debt more complicated. While financial policy measures are the primary tools to control household debt in the short term, ensuring stability over the longer term, as well as meeting housing needs, requires a holistic approach to housing market issues.

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3. FX mortgages, housing boom and financial stability – a case study for Poland (2005-2015)

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Abstract

Poland underwent a quick transition of the economy, but its housing market and housing policy did not change quick enough. The economic growth that followed the EU accession lead to a rising housing demand, which was fuelled by quite cheap FX denominated mortgages. Those allowed many households to satisfy their housing needs quite quickly, but combined with an insufficient housing supply lead to a price boom, that was followed by oversupply. As the housing needs started to be met, the oversupply lead to falling house prices, which in real terms reached pre-boom levels. The recent global and European economic turmoil made the Polish currency depreciate. The effect was very strong when the SNB abandoned the EUR CHF peg and some mortgage takers found themselves under water. Still the majority of the mortgage takers made a good deal and the banking sector remained stable. We present a case study, explain how the FX lending emerged and how we managed to stay safe.

JEL classification: E32, E44, E37, R21, R31

Key words: Housing market cycles; housing finance; FX market

1. Introduction - Importance of the residential market for the economy

Real estate plays a significant role in the economy, both on a micro- and macro-economic scale and influences the financial system. Historically, land's importance as the fundamental factor of production decreased to the benefit of buildings. The development of modern civilizations and economies means urbanization, namely development of infrastructure, residential and commercial real estate, with the residential real estate usually playing the most important role on the market. This development is supported by the expansion of the financial sector, ensuring its long-term financing both during the construction phase as well as the maintenance and commercialization. A substantial part of the real estate is loan-financed, which means that the developments in the financial sector in the recent decades, including the growing size of banks, were largely driven by the development of the real estate sector.

Housing markets and housing finance have undergone remarkable changes over the past decades. With the increase of household's disposable incomes resulted in a rapid increase in the popularity of owner-occupied housing. At the same time, there has been a significant increase in indebtedness of private households. Mortgage-backed assets can reach up to 50% of the assets of the banking sector and 100% of GDP, becoming a decisive factor for the stability of the banking system. When the system of home purchase financing is more developed, mortgage-backed assets are bought by investment and pension funds. The poorly functioning cyclical housing market combined with the financial sector leads to crises, which, depending on the design of the financial system, may resemble more banking crises or financial crises.

The importance of the residential market for the economy is largely related to the importance of housing as a good for living. The systems aimed to meet housing needs differ a lot across EU countries. They generally encompass the commercial rental housing, broadly understood as the social housing and the owner-occupied housing. Irrespective of considering housing as a durable consumer good or as a capital good generating a flow of housing services, the needs it satisfies are among fundamental needs. Households' expenditure on home maintenance accounts for 10-15% of their incomes, which translates into an aggregate demand in the economy. The housing construction sector contributes 3-6% of GDP. As homes are usually purchased on credit, housing expenses include the repayment of loans (around 20% of income) which, in turn, finance the banking sector. The total expenses amount to 25-35% of households' incomes. As a result, housing expenses can absorb a significant portion of households' income. This translates into a high politicization of the housing sector, the housing market and the financial system. Sometimes politicians decide to make ad-hoc changes, which complicate the functioning of the system. Rental markets are an important prerequisite for a flexible labor market and therefore playing a key role in reducing unemployment. Furthermore, housing is a source of tax revenue, usually at the local level, both in the form of periodical taxes as well as those associated with the transaction or a change in value. However, due to its political bias it is usually treated in a lenient way for tax purposes. Due to its complexity, the sector is subject to many regulations, including, for

most part, specific regulations of national character, concerning the transfer of ownership and including charges, registration, enforcement, taxation, social protection of tenants, etc.

Price changes translate into changes in the value of the housing stock, which represents a significant proportion (up to 50%) of fixed assets in the economy. The ensuing changes in prices have multidirectional, direct and indirect, repercussions on the whole economy, affecting mainly the behavior of households (demand for housing, wealth effect, borrowing capacity) and businesses (labour costs). One of the areas directly impacted by these changes is housing construction, which usually generates 3 - 5% of GDP, and its workforce has a 3-5% share in total employment.

Yet, the currently most important channel of this interaction is the financial system. Price changes cause changes in the valuation of mortgage-backed financial assets and may, through the financial accelerator mechanism in the developed markets, cause problems in the financial sector and in the whole economy. On the other hand, as shown by the long-term experience, the financial sector, apart from changes in fundamental factors and speculation, may be an important factor increasing tensions and volatility in the residential sector which affect the whole economy.

For owner-occupied housing to satisfactorily meet mass consumer needs we need a liquid and efficient housing market, which, in turn, requires stable and long-term financing. This is done through a dedicated financial system built with a significant participation of the state. Currently the EU is dominated by a system based on universal banks and funding from deposits. There are also specialized and wholesale systems (involving financing outside the banking system). In the case of a developed financial system, the effect of the financial accelerator is generally stronger. Financial crises due to their scale and government interventions often turned into public finance crises and sometimes into foreign exchange crises (FX loans).

2. Case study - FX mortgage in Poland

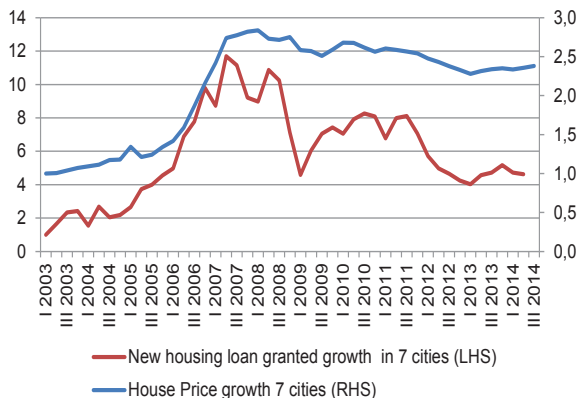
The Polish financial and banking system underwent three shocks since 1990, that partially coincided and changed its structure permanently: * the hyperinflation and the destruction of the economy, ** the liquidation of the centrally planned economy and the creation of a market economy and *** the EU accession that coincided with a credit boom and a real estate boom fueled by FX denominated loans, predominately in CHF.

In the 90's, after the breakdown of the communist system Poland managed to create from scratch a market economy and a simple and effective banking sector that relied on large universal banks. Most banks were privatized and later sold to the largest European and US banks. Those banks financed their operations mainly with short-term deposits and located their funds into corporate and consumer loans. At the same time the long-run housing policy was oriented towards OOH and housing loans. Together with the help of international institutions various reforms of the system were introduced, which allowed to develop the banking sector further. However, the development of mortgage loans was hindered by a high inflation (19,9% in 1996 and 7,3% in 1999) and the lack of know how. In order to solve this problem at least to some extent, OOH housing was financed in the 1990's with double index mortgage loans and FX denominated loans (mostly USD), which introduced FX lending to the market. Because the economic transformation started with a strongly under-valued PLN, the currency appreciated continuously in the later periods. In consequence consumers had a low perception of the FX risk and FX lending became popular. Anyhow, housing demand and OOH construction were rather limited and the developer sector were very weak. The mortgage market developed after 2000 when inflation decreased, economic grew and incomes increased and also migration to large cities started. Those factors were augmented by the growth of new households and also by the delayed housing demand. Because the mortgage interest rate for PLN loans was quite high, due to the high inflation, and the mortgage affordability of households was quite low, Polish banks started to issue FX denominated mortgages with the help of their foreign owners. Most FX denominated mortgages were denominated in CHF, the cheapest and stable currency that was available at that time. Banks used mostly FX swaps and to a lesser degree credit lines. Even though the markup was high, the mortgage rate for denominated mortgages was at least two times lower than those of PLN loans. Because the amount of mortgages in universal banks was rather small, they were not regulated, while the quite conservative regulations affected only mortgage specialized banks, which did not and still do not play any major role for the market.

Consumers expected house prices to rise after the EU accession and the demand for new housing rose amidst a tiny developer market, and in consequence house prices started to rise in 2003. Loan disbursements and house prices accelerated further in 2005 and during the 2005-2007 period the house prices and the amount of outstanding mortgages doubled. Housing developers were not able to deliver enough housing units to the market and a speculation of pre-sale contracts and construction projects began. When house prices rose, the affordability of households to finance them with mortgages declined. Banks wanted to sustain

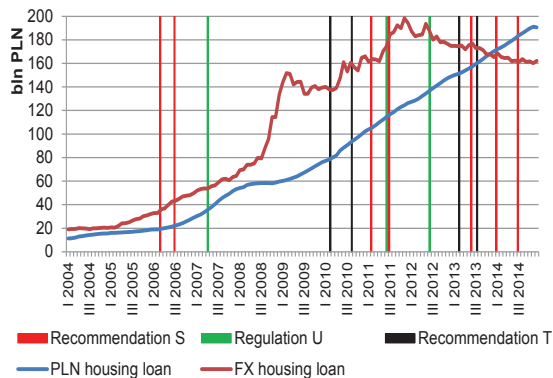
the mortgage demand and eased credit granting criteria, especially those concerning the income buffer. Even though the markup on mortgages was low, banks expected to bind the client for a long time and to sell him other financial products.

Figure 1 Poland - house prices growth in 7 biggest cities, housing loans in 7 biggest cities growth, on quarter basis (I 2003=100)



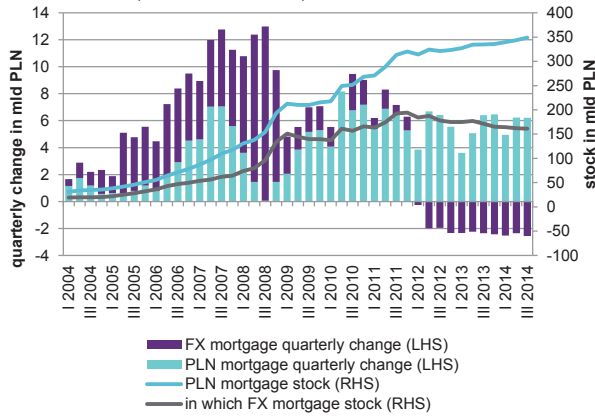
Source: NBP.

Figure 2 Poland - Housing loan receivables (bln PLN) and FSA regulations



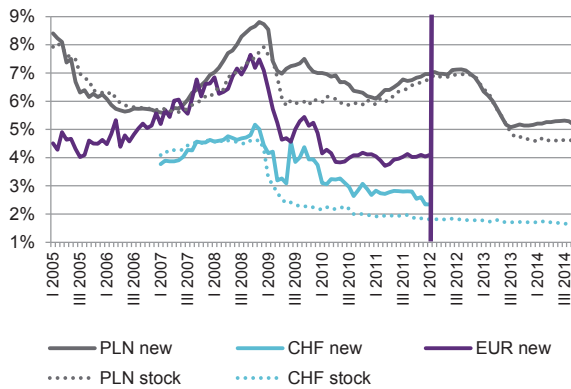
Source: NBP, FSA.

Figure 3 Poland - Balance and quarter-on-quarter changes in housing loan receivables from households after adjustments and the currency structure of quarter-on-quarter increases in housing loan receivables (in PLN billion)



Source: NBP.

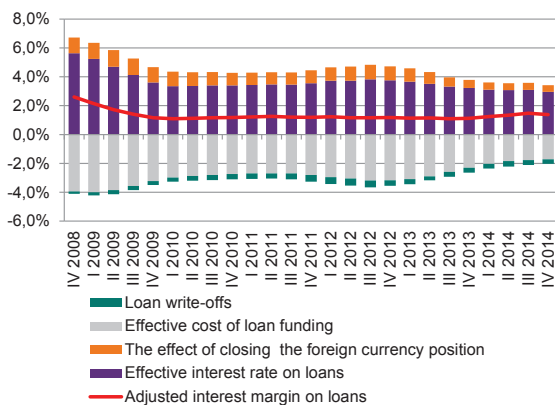
Figure 5 Poland - Interest rates on housing loans for households



Note: foreign currency loans practically ceased to be granted in 2012.

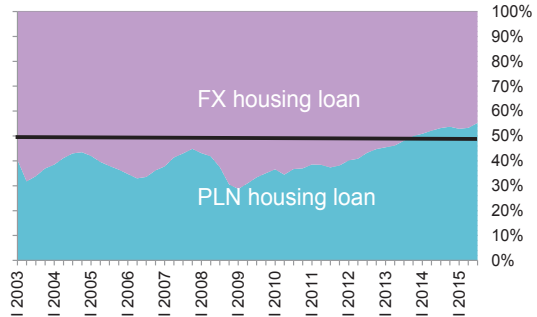
Source: NBP.

Figure 7 Poland - Estimated profitability of housing loans for banks



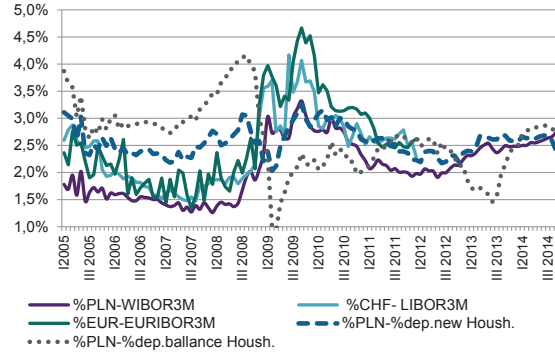
Source: NBP.

Figure 4 Poland - Currency structure of housing loan receivables from households resulting from housing loans (in %)



Source: NBP.

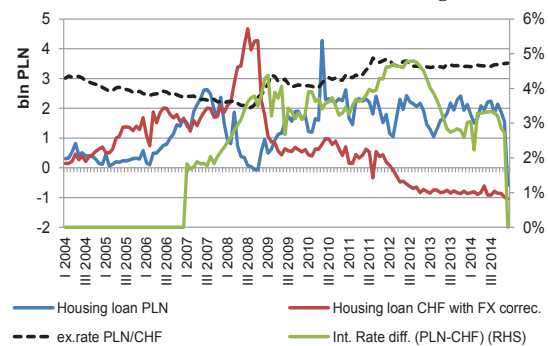
Figure 6 Poland - Bank margins on new housing loans



Note: bank margin is the difference between the housing loan interest rate (NBP data) and the LIBORCHF3M, the EURIBOR3M or WIBOR3M rates.

Source: NBP.

Figure 8 Poland - Monthly change of receivables from households resulted from housing loan



Source: NBP.

The fast increase of mortgages in connection with rising house prices made the Financial Supervisory Agency (FSA) to react. The emphasis was put in the first place on the reduction of the rising credit risk that was connected with the repayment of the mortgage and the value of the collateral, which could deteriorate due to FX shocks, distressed sales and falling house prices. In 2006 the FSA announced Recommendation S and other recommendations in the following years, which introduced more conservative rules on the calculation of the housing loan affordability, risk weights and the LtV levels. In order to curb the loan disbursement and increase the housing loan quality, both demand and supply side restrictions were used. Since July 2006 Recommendation S made banks that issued FX denominated housing loans to calculate the mortgage affordability of their clients as if they took a PLN loan (higher interest rates) and to increase the mortgage value by 20% in the calculation. In 2007 the risk weight for the part of the FX denominated housing loan where the LtV was below 50% was increased from 35% to 75%. At the same time, the risk weight for this part of the PLN housing loan was lowered to 35%. In both cases the risk weight for the part of the housing loan that corresponds to 50-100% of the LtV remained the same and stayed at 100%. In July 2011 the FSA introduced a DTI cap of 42% for FX denominated housing loans and in June 2012 the risk weight for them was increased to 100%, irrespective of the LtV level. The FSA stopped practically to use the DTI cap for FX denominated housing loans, but sustained the rule that was introduced in 2006, that during the affordability calculation the DTI for FX denominated mortgages should be 20% higher than that for the calculation of PLN mortgages. Another version of Recommendation S that came into force in June 2014 forbids to grant FX denominated loans to consumers who cannot hedge against the FX risk, thus who do not have a permanent income in the currency of the mortgage.

The regulations that were introduced in 2006-2007 had no visible effect on the mortgage amount or the house prices. Their introduction was not well accepted by banks, consumers and a large fractions of politicians. The FSA was subject to critique and its place, structure and tasks were discussed and changed in 2008. This strongly affected the effectiveness of its work. After 2008 and the *Global Financial Turmoil* the banking sector started to curb FX lending by itself and because it was forbidden to grant FX denominated loans to people who do not have income in this currency, banks finally started to grant only PLN loans.

Even though there were significant price increases in the largest cities in Poland, the scale of the problems and tensions was too little to cause any harm to the housing sector and the financial sector. The financial system worked as a classical financial intermediary and did not fuel the financial accelerator, which causes that shocks flow to other markets and enforce each other. A significant part of the FX denominated loans was financed with short-term FX swaps through the foreign banks that owned the domestic banks. Those banks sustained the financing of their subsidiaries, and thus the main effect of FX shocks was the growing demand for PLN denominated deposits and the growth of their interest that could balance the FX shock. This translated into higher costs of PLN loans. In some few cases the help of the NBP was necessary, which issued swaps that were backed by the NBP foreign reserves. In the next years the FSA made banks to open long-run credit lines between domestic banks

that issued FX loans and their parent banks, in order to decrease the liquidity risk. Banks were also frightened by the financial crisis in the US and curbed its mortgage disbursement, which made house prices decline over the next years. The disequilibrium in the housing market was absorbed over the next years and the only lasting effect of the boom was large portfolio of CHF denominated loans, which amounts to around 40 bln CHF or 10% GDP and 11% of the banking sector assets.

The analysis of the banking sector performer by the NBP and the FSA show that the regulations improved the quality of this loan portfolio significantly. The quality of FX denominated loans was better than that of PLN loans and later FX shocks did not alter their quality significantly. One important determinant of this outcome is the fact that Recommendation S forbid banks to grant FX denominated loans to those households, which could not afford PLN loans, a practice they applied earlier. Also current NBP research shows that FX denominated loans were granted to households who had a better financial situation than those who were granted PLN loans.

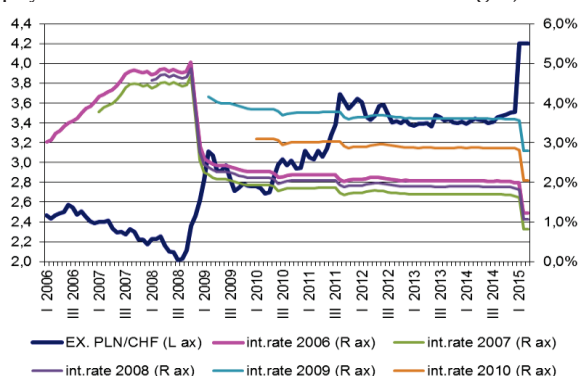
Another factor that made the FX denominated loan portfolio so resilient to socks was their interest rate type and the current economic situation of EU countries and the actions of their central banks amidst the crisis in the EU. The most common mortgage form was a mortgage with a fixed markup and an interest rate that was indexed to the LIBOR. The FX shock was cushioned by the drastic reduction of the LIBOR, as central banks loosened their monetary policy to deal with the economic problems. In consequence the CHF/PLN exchange rate and the interest rate level moved in opposite directions, and the increase of the debt service was annihilated by the fall in interest rates. For most clients the cost of the FX denominated mortgage were lower than those for PLN loans, which had an impact on the quality of those loan portfolios.

Table 1. List of The Polish Financial Supervisory Authority (FSA) recommendations and regulations concerning FX denominated housing loans in Poland

Act	Announcement	Implementation	Action
Recommendation S	03.2006	07.2006	For the assessment of the creditworthiness of the clients taking FX mortgage loans bank should (i) assume the same interest rate as in the PLN and (ii) 20% higher credit value than the face value.
Regulation 1/2007	04.2007	04.2007	Risk weights for the part of the effectively collateralized part of the loan(that is up 50% of the real estate value) increased from 50 to 75%.

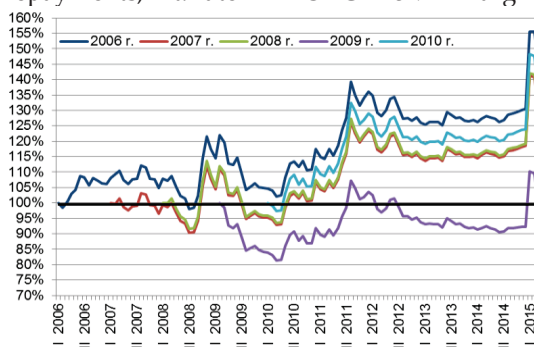
Recommendation T	02.2010	08.2010-12.2010	50% DTI for the individual earning less than average salary in the economy, 65% for others
Recommendation S	02.2011	07.2011	42% DTI limit for FX mortgage loans taken by private persons
Regulation 153/2011	06.2011	06.2012	Higher capital requirements for FX loans - rise in risk weight from 75% to 100%
Recommendation T	02.2013	07.2013	No explicit DTI limit for all non-mortgage loans, both FX and in PLN
Recommendation S	06.2013	01.2014, in case of commercial real estate mortgages - 07.2014	No new FX lending for clients without a natural hedge (i.e. income in the foreign currency)

Figure 9 Poland - Exchange rate PLN/CHF and mortgage interest rate for successive vintages (loan agreement in the January, for 25 years, equal repayments, int. rate = LIBORCHF3M + margin)



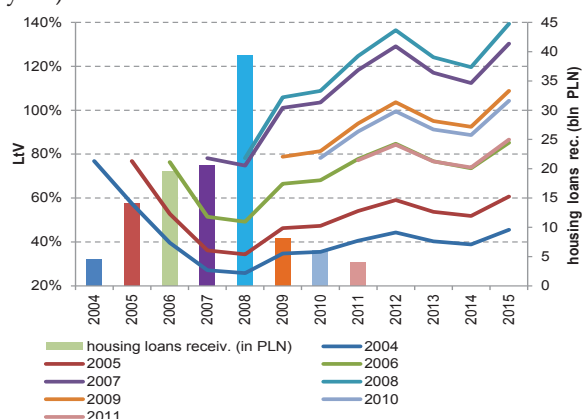
Source: NBP.

Figure 10 Poland - Current housing loan repayment to the first one (calculation bases on: loan agreement signed in January, for 25 years, equal repayments, int. rate = LIBORCHF3M + margin)



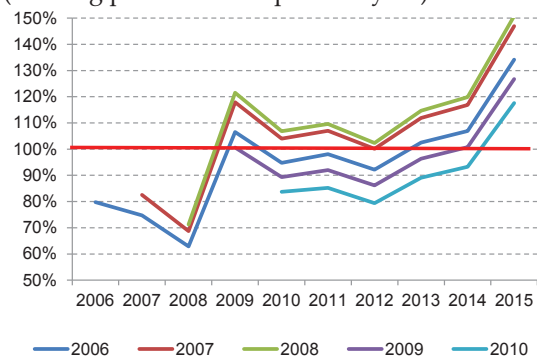
Source: NBP.

Figure 11 Poland - LtV and annual receivables of housing loans (housing purchased in specified year)



Source: NBP.

Figure 12 Poland - Monthly repayment of housing CHF loan (in PLN) versus housing PLN loan (housing purchased in specified year)



Source: NBP.

2.1 The recent real-life stress-test

Another test came in January 2015 when the Swiss National Bank stopped to defend the CHF exchange rate, which resulted in an unprecedented appreciation of the CHF against the PLN, additionally taking place during an election period. So far the FX denominated housing loan portfolio performs well, however the FSA made steps to make the absorption of this shock easier. They recommended banks: 1/ to take the negative LIBOR interest rate into account for the indexing of the mortgage rate; 2/ to allow a cost-free change of the FX denominated loan to a PLN loan at the current NBP rate; 3/ to lower the spread during FX transactions that are used to pay back the loan; 4/ not to ask any more for additional insurance when the LtV exceeds 100%; 5/ to allow for a break in the service of the debt and to allow to extend the mortgage period. Also the Polish Bank Association recommended similar actions to its members.

According to FSA information, the Polish banking sector is highly and well capitalized and passed positively a stress-test scenario under which the CHF can cost 4,5 or even 5 PLN. Also a potential increase of the LIBORCHF to 2% should not cause any major problem, as the FSA states. The FSA assumes that no additional measures are necessary and factors that will make the repayment of this portfolio easier are the significant income growth in the last years and the expected appreciation of the PLN. A negative consequence of the current situation is the fact that many FX denominated housing loan lenders cannot sell their home without materializing a significant loss.

The FSA offered an alternative solution to the problem - to allow to change the denomination of the loan from CHF to PLN, and to distribute the costs equally between the bank and its client, where the process would last until the loan is repaid. One can assume that most lenders will not use this option as they expect an appreciation of the PLN in the long run.

3. Comparison of Poland and Hungary – conclusions

The international experience with large-scale FX mortgages for residential and commercial real estate is quite bad, in general. They add to the pro-cyclicality of the market and when used as a major source of funding, they generate huge problems to the macroeconomy and the financial stability. Real estate crises lead to banking crises, which at the very end have to be resolved with public money and further add to the economic slowdown.

The Polish experience is similar, however not as strong as that of Hungary. Poland observed a way smaller problem, because of its better economic conditions, macroprudential regulations and also some luck. We explain the reasons, comparing the two countries.

Let us start with the similarities. Both countries belonged to the postsocialistic block, underwent the economic and political transition in similar times. Historically, Hungary had a slightly higher GDP per capita than Poland, but this was unimportant in the discussed case. Both countries used a mix of World Bank and USAID recommendations to transform both: the financial system and an own populist housing policy (political announcements that were not put into life, uncontrolled subsidies, costless privatization of the housing stock). In Hungary the living conditions were much better than in Poland, thus there was less demand for housing loans and new residential construction. However, there were problems with badly controlled subsidies, the budget deficit and inflation. In consequence of the international programs both countries introduced mortgages with a delayed payment (DIM, DPM) and growing principal, and later also FX denominated loans. Those were granted on a mass scale, and local banks secured their loans from their foreign owners with CIRS and FX swaps.

There were also significant differences, which were later reflected in the problems both countries faced. First, FX loans in Poland amounted to 11% GDP, while they amounted to around 22% of GDP in Hungary. Secondly, while in Poland those loans were nearly only mortgage loans, in Hungary they were used also for car and consumer finance. They were wide-spread in Hungary, while in Poland, especially since 2006 due to Recommendation S they were granted only to the richer part of the population. The type of the mortgage product played also a major role, as in Poland the interest rate was the LIBOR plus a margin (initially 2.5-4 pp, later 1.5-2.5 pp), while in Hungary the interest rate was fixed for a longer period and calculated internally by the bank which issued the loan. In consequence, the depreciation of the Polish Złoty (PLN) was mitigated by the falling LIBOR rates, while in Hungary the depreciation of the Hungarian Forint led to a direct and significant increase of the monthly mortgage payment. In 2006 the CHF interest rate for the client was around 4% in both countries, but in 2014 it fell to 1,5% in Poland and increased to 6,5% in Hungary. This translated into a decline in the quality of the loans, and while the rate of non-performing loans remained in Poland below 3%, it rose to 24% in Hungary. The FX loans portfolio in Hungary generated significant losses for the banks, their ROE was estimated at minus 27%, while in Poland they remained profitable, with an estimated ROE of 11%. The economic situation added to the problem. In Poland real income rose by 25% during 2006-2015, while it stagnated in Hungary. This rise in income proved to be a good buffer against the increase in the

payments for older loans, that were granted on risky basis. Poland had a stable economic and public finance situation, thus the exchange rate shock was only temporary.

For Hungary the problem was so severe that the government went for a shock therapy, which was costly to each part: the banks, loan takers and the rest of the population.

In Poland the problem was a matter of the richer part of the population, and as surveys show, the rest of the population is not willing to help at a larger scale. Also banks do not want to bear the costs and losses, however the FSA decided to freeze this year's dividend payment for banks that have large FX loan portfolios. No one knows about the future CHF/PLN rate, and thus about the risk, should be a mandatory conversion of the CHF loans be introduced. One has the impression that *de facto* everybody agrees silently to keep the *status quo* and to help at a small scale to mitigate the short-run extraordinary costs. In consequence, we conclude that Poland will have to deal with this problem for many more years.

4. Current risks in the CESEE residential property market: evidence from the OeNB Euro Survey

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Article 4 Contents

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After a pronounced boom-bust cycle during the global financial crisis, house prices in Central, Eastern and Southeastern Europe (CESEE) are now recovering but still remain below precrisis levels. Evidence from the OeNB Euro Survey of households shows that every third household considers finding a new residence difficult, with the perceived difficulty being particularly high in areas of low bank penetration and among low income households and households whose highest level of education is primary education. Foreign currency mortgage holders are found to be more frequently in arrears in Hungary and Serbia than in other CESEE countries; the exchange rate and interest rate differential risks of foreign currency mortgages have increased in several countries, however. Loan arrears are high in general, and households in arrears are at their financial limits. At the same time, demand for housing loans is found to be increasing again.

JEL classification: D14, F36, P2, P5, R21, R3

Keywords: residential property markets, housing finance, household survey, Central, Eastern and Southeastern Europe

Strong fluctuations of house prices can have major repercussions on the financial position of households and eventually on the risk-bearing capacity of borrowers. Cesa-Bianchi et al. (2015) show that house prices in emerging markets grow faster and are more volatile than in advanced economies, and that global liquidity shocks have a stronger impact on house prices and consumption in emerging markets. During the crisis, Central, Eastern and Southeastern Europe (CESEE)¹ experienced a pronounced boom-bust cycle of both house prices and credit growth. Empirical evidence shows that the rise of house prices in CESEE in the run-up to the crisis had no longer been justified by economic fundamentals, which eventually resulted in a sharp price correction (Ciarlone, 2012; Huynh-Olesen et al., 2013; Égert and Mihaljek, 2007). Recently, house prices in CESEE have recovered but have not reached precrisis levels.²

Prior to the crisis, the overall improvement of borrowing conditions strongly pushed up demand for housing loans in CESEE,³ which was particularly amplified by funding provided by foreign banks to their local subsidiaries (Huynh-Olesen et al., 2013). Given the massive inflow of capital to CESEE, foreign currency lending (in particular denominated in euro and Swiss franc) became a widespread phenomenon that also boosted the asset price boom (ECB, 2012).

¹ In this paper, CESEE refers to the countries covered by the OeNB Euro Survey: Albania, Bosnia and Herzegovina, FYR Macedonia, Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania and Serbia and, in contrast to other definitions, does not include those countries in the region that use the euro as legal tender.

² See annex for recent data on house price and credit growth developments in CESEE.

³ The share of housing loans in GDP now ranges from about 5% in Bosnia and Herzegovina to 21% in the Czech Republic. Shares are much higher than in the earlier 2000s but they are still well below ratios observed in Western European economies. In most CESEE countries, housing loans play a more important role than consumption loans and lending for other purposes.

Chart 1

Nonperforming loans in CESEE



The CESEE economies were hit particularly hard by the global financial crisis, with private consumption declining on average in seven out of ten countries and real income stagnating or even decreasing between 2009 and 2013 (EBRD, 2011; Corti and Scheiber, 2014). In combination with the house price bust, this has left most CESEE countries with a high share of nonperforming loans (NPLs) in total loans (chart 1).⁴

Against this background, this paper interlinks developments in CESEE residential property markets as seen from a macroeconomic perspective with unique evidence from the OeNB Euro Survey of CESEE households. In particular, we address the following questions: What are the most prominent structural features of CESEE residential property markets and how are these related to demand for housing and, more specifically, housing finance? What are the characteristics of current mortgagors and of existing mortgages, and how vulnerable are mortgagors? Finally, looking at the high percentage of NPLs, we examine which households are in loan arrears and provide some indication on the chances for an improvement in the financial situation of mortgage-holding households.

The next section describes the data source used, i.e. OeNB Euro Survey data. Section 2 discusses specific structural aspects of CESEE housing markets which impact the demand for housing finance. Section 3 zooms in on housing finance, analyzing the risk-bearing capacity of current mortgagors and the outlook for resolving NPLs. In the last section, we summarize our results and discuss some policy implications.

⁴ For most countries, data on NPLs are only available as the NPL share in total loans, while for Croatia, Hungary, Poland and Serbia disaggregated data are available as well. Except in Hungary, NPLs of households have a lower share in total loans than NPLs of nonfinancial corporations.

1 The OeNB Euro Survey

The data source we use is the OeNB Euro Survey of households, which has been carried out on commission of the OeNB in Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, FYR Macedonia, Hungary, Poland, Romania and Serbia on a semiannual basis since fall 2007. The latest survey wave took place in fall 2014. In each survey wave, a representative sample of 1,000 individuals is polled in each country in a multi-stage stratified random sampling procedure. The sample is representative of the country's population with regard to age, gender and region. The target population comprises residents aged 15 years or older. Interviews are carried out face-to-face at the respective respondent's home. The survey collects information on households' loan and saving decisions as well as their economic sentiments and expectations and focuses on the role of the euro in households' portfolios. We specifically utilize the data collected during the survey wave of fall 2014, which included a number of questions related to the housing market and, in particular, to housing finance.⁵

2 Housing markets in CESEE

Generally, CESEE housing markets are strongly heterogeneous, given the different strategies countries followed during the transition process (OECD, 2002). However, they also exhibit some common characteristics.⁶ One well-known but striking feature of residential property markets in CESEE is the dominance of owner-occupied housing: on average 80% of households (according to the OeNB Euro Survey) own their primary residence⁷, compared with 67% in the euro area (according to Eurostat). Mostly, the high levels of owner-occupied housing in CESEE go back to the privatization or restitution process at the beginning of transition (for more details, see Hildebrandt et al., 2012) but they also result, in part, from a lack of rental housing (Amann and Bezgachina, 2013). In addition, mortgage financing is not very widespread in general, but more prevalent in the CESEE EU Member States than in the Western Balkan countries, possibly because credit markets are more developed there.

The high degree of homeownership in CESEE prompts the question whether there is actually any significant demand for housing and housing finance in the region. While the OeNB Euro Survey shows that most respondents are very satisfied with their current residence, housing deprivation⁸ is considerably higher in CESEE than for the EU-28 average (Eurostat, 2012). The low quality of the CESEE housing stock is largely attributable to underinvestment during socialist times and also to the high share of poor homeowners who obtained their homes in the course

⁵ Further details on the OeNB Euro Survey are summarized by Brown and Stix (2015), and selected results can be found at www.oenb.at/en/Monetary-Policy/Surveys/OeNB-Euro-Survey.html.

⁶ For an overview of the main structural features of housing markets, refer to Hildebrandt et al. (2012), Mihaljek and Subelyte (2014) and IIBW (2013).

⁷ All averages for the entire sample of countries included in the Euro Survey are weighted by sampling weights and each country's population size.

⁸ According to Eurostat, severe housing deprivation is defined as the percentage of the population living in a home which is considered overcrowded while also exhibiting at least one of a set of specific housing deprivation measures. Housing deprivation is a measure of poor amenities and is calculated by referring to homes with a leaking roof, no bath or shower and no indoor toilet, or a home that is considered too dark. For more details, see ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Severe_housing_deprivation_rate.

Table 1

Demand elasticity of homeowners, mortgagers and non-owners

Answers to the Euro Survey question: "I strongly prefer to stay in the area of the town/village where I currently live and would cut back on other expenses rather than consider a move."

	Homeowners	Mortgagers	Non-owners	Null hypothesis: a=b	Null hypothesis: a=c
	(a)	(b)	(c)		
	%			p-value	
Bulgaria	63	64	33	0.90	0.00
Croatia	50	42	35	0.01	0.00
Czech Republic	43	48	31	0.29	0.00
Hungary	41	36	22	0.64	0.00
Poland	41	38	34	0.58	0.18
Romania	54	42	33	0.07	0.00
Albania	53	77	45	0.09	0.89
Bosnia and Herzegovina	42	33	32	0.33	0.00
FYR Macedonia	50	54	41	0.61	0.10
Serbia	54	49	37	0.60	0.01

Source: OeNB Euro Survey, fall 2014.

Note: EU countries and non-EU countries in alphabetical order.

of the privatization or restitution process but are not able to cover maintenance costs (IIBW, 2013). This view is substantiated if one compares the socioeconomic characteristics of homeowners with those of non-owners. We find that the percentage of unemployed respondents is higher among homeowners.⁹

Sinai and Souleles (2005) argue that if the owner-occupation rate is high (and the rental rate low), a large share of the population is well-hedged against house price volatility. Indeed, apart from featuring high ownership rates, CESEE housing markets are also marked by low transaction levels. According to OeNB Euro Survey evidence, between 5% (Hungary) and 29% (FYR Macedonia) of respondents have never moved house in their lives.

Table 1 suggests that demand elasticity is also lower among homeowners than among non-owners. Interestingly, in this respect there is no significant difference between homeowners and mortgagers. However, macrodata evidence suggests that the stabilizing effect of high ownership rates is small.

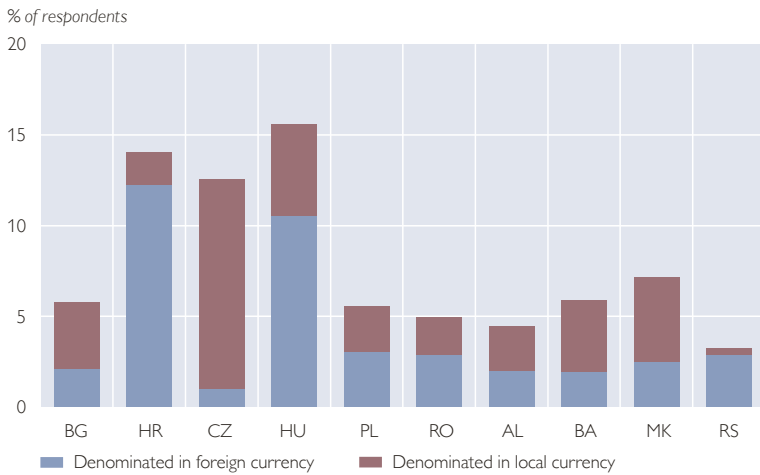
3 Housing finance

While housing loans are higher than consumption loans (Lahnsteiner, 2013), the percentage of CESEE households holding a mortgage is fairly low at 5% on average across the countries covered by the OeNB Euro Survey – in particular when compared with the euro area, where this rate stands at 23% (ECB, 2013). As discussed in the introduction, foreign currency loans are widespread in CESEE. On average, 35% of households with a mortgage have a foreign currency mortgage. In contrast to Austria, where foreign currency loans are almost exclusively used to finance real estate (Albacete and Lindner, 2015), foreign currency loans in CESEE are also used to finance consumption: 44% of households with a foreign currency loan

⁹ This result may also indicate that the residential property market puts a strain on labor mobility, but investigating this question in more detail is beyond the scope of this paper.

Chart 2

Mortgages in CESEE



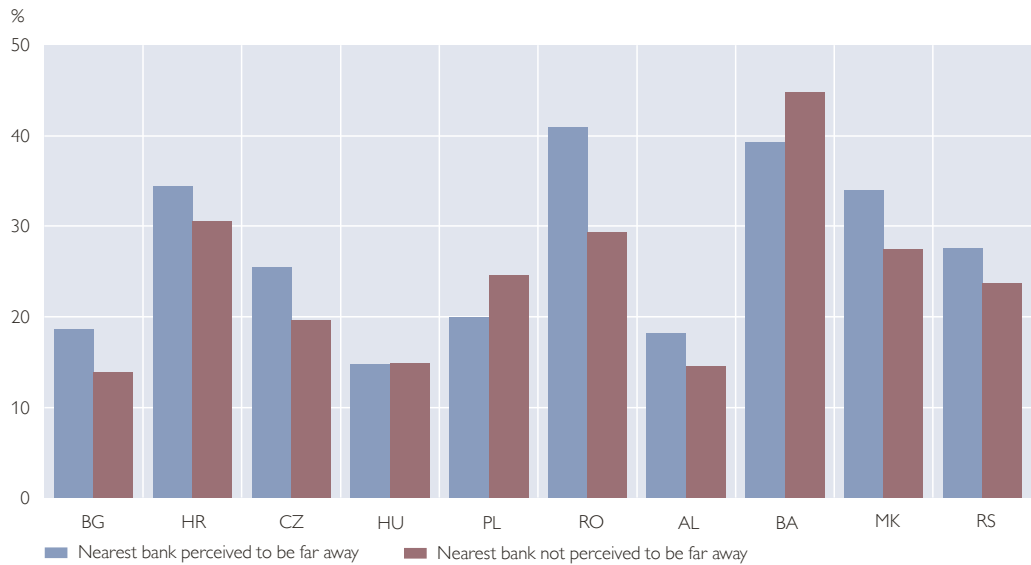
Source: OeNB Euro Survey, 2010–14.

hold this loan for consumption purposes, 56% hold it to finance a house or apartment.

The low participation in taking out housing credit in CESEE may partly be explained by the high percentage of homeownership. However, on average every fourth respondent states that it would be difficult to find a new apartment or house if they wanted to move. Chart 3 shows that the perceived difficulty is particularly high in areas with low bank branch density (except in Bosnia and Herzegovina). Respondents with a low educational level, with low income or unemployed respondents are also significantly more likely to say that finding a new home is difficult.

Chart 3

Perceived difficulty to find a new residence



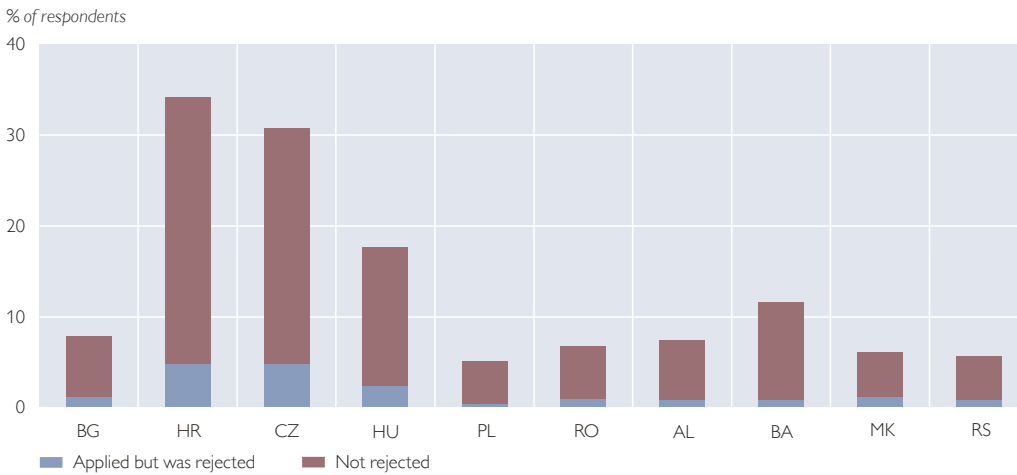
Source: OeNB Euro Survey, fall 2014.

Note: Results are based on the Euro Survey question "Please tell me whether you agree or disagree with the following statement: In my country, it is easy to find a new apartment/house if you want to move." Values show the percentage of respondents who disagree or strongly disagree with this statement. The perceived bank distance is based on the Euro Survey question "Please tell me whether you agree or disagree with the following statement: For me it takes quite a long time to reach the nearest bank branch."

Turning to demand for mortgages itself (chart 4), we observe that the share of households that applied for a mortgage between 2000 and 2014 differs considerably between countries. Linking mortgage applications with information on perceived bank distance, we find that in Bulgaria, Croatia and Romania the percent-

Chart 4

Mortgage applications and rejections in CESEE since 2000



Source: OeNB Euro Survey, fall 2013.

Note: Results are based on the following Euro Survey questions: “Since the year 2000, have you or any member of your household ever contacted a bank with a view of obtaining a loan?” If respondents reply “yes,” the following question is asked: “What was the purpose of the loan(s) for which you contacted your bank?” Possible answers are: “To finance a house or apartment/for consumption goods/to finance a car/for education/for other purposes.” The chart only shows the responses of respondents who answered “to finance a house or apartment.” Loan rejection rates are based on the question: “Since the year 2000, has a bank ever discouraged you from applying for a loan or ever refused a loan?”

age of mortgage applications is significantly lower among households in areas with low bank penetration.

Chart 4 also shows the share of households whose mortgage application was rejected, with the rejection rate for households that applied for a loan ranging from 7% in Poland and Bosnia and Herzegovina to 18% in FYR Macedonia. In line with expectations based on macrodata evidence, the rejection rate is found to have increased significantly after 2008 (from an average of 9% to 18%). Rejection rates are particularly high among respondents with only primary education, those with low incomes, and unemployed respondents. Together with the evidence on the perceived difficulty of finding a new home, this suggests that residential property

Table 2

Socioeconomic characteristics of mortgagers in CESEE

	Homeowners	Mortgagers	Non-mortgagers
% of respondents			
Household size			
One person	15	7	15
Two persons	31	23	32
Three or more persons	54	70	53
At least one child living in the household	32	55	30
Monthly household income after taxes			
1–33 income percentile	28	16	29
34–66 income percentile	24	27	24
67–100 income percentile	23	36	22
Information on income refused	25	21	26

Source: OeNB Euro Survey, 2011–14.

market policies should address possible obstacles to access to housing finance in particular for the socioeconomically vulnerable.

At the same time, this observation also indicates that when granting mortgage loans, banks selected households with better risk-bearing capacities. This is confirmed in table 2, which compares mortgagors to other homeowners and shows that mortgages, on average, are held by larger, higher-income households in urban areas.¹⁰ Comparing households holding a foreign currency mortgage to households holding a local currency mortgage, we do not find that the basic indicators of risk-bearing capacity differ significantly.¹¹

As to mortgage characteristics, the Euro Survey shows that the majority of mortgages in CESEE EU Member States were taken out before the global financial crisis, unlike in the Western Balkans, where the majority of mortgages were taken out after 2008. The latter may be related to the fact that these countries were hit by the global financial crisis slightly later than more advanced economies in CESEE. The same regional division holds when we look at maturities, which are much shorter in the Western Balkans. Households' ability to repay mortgages, of course, also depends on the characteristics of the mortgage itself. Table 3 shows that in four out of ten countries the majority of mortgagors hold mortgages with fixed interest rates; in the remaining countries, the majority of mortgagors are exposed to interest rate changes.

Combining the information on the year loans were taken out with data on average interest rates from the respective national central banks, table 3 also shows that the initial interest rates on mortgages denominated in local currency ranged from 5% in the Czech Republic to 22% in Serbia, compared with a maximum of 9% in FYR Macedonia for mortgages denominated in foreign currency. The bottom panel of table 3 shows that at the time loans were taken out the interest rate differential between local and foreign currency loans was sizeable – e.g. up to 18 percentage points in Serbia. However, in all countries surveyed, the interest rate differential has decreased; in Romania it is now zero and in Bulgaria it is even negative.¹² Thus, for holders of foreign currency loans with a flexible exchange rate, the cost advantage has declined.

In addition to declining interest rate advantages, foreign currency borrowers in some CESEE countries had to face substantial depreciations of their local currencies. Table 4 shows the percentage change in the exchange rate for euro-denominated loans between the year the loan was taken out and 2014. Even though table 4 does not take into account swings in the exchange rate between the year the loan was taken out and 2014, which may also have been to the advantage of mortgagors, it shows that on average the exchange rate is now less advantageous for borrowers than at the time the loans were taken out.

¹⁰ *Income, in particular, is correlated with education and labor market status – mortgagors are more frequently employed and have secondary or tertiary education (detailed results are available from the authors upon request).*

¹¹ *This is in line with Beckmann et al. (2015), who show that in terms of socioeconomic characteristics the most pronounced differences exist between creditors of domestically owned banks and creditors of foreign-owned banks. Detailed results are available from the authors upon request.*

¹² *This calculation does not take into account interest rate swings between the year the loan was taken out and 2014.*

Table 3

Interest rates and interest rate differential

Type of interest rate	Fixed rate loans	Variable rate loans	Number of observations	
<i>% of respondents holding a mortgage</i>				
Bulgaria	63	38		106
Croatia	41	59		307
Czech Republic	36	63		255
Hungary	35	65		266
Poland	55	45		92
Romania	50	50		104
Albania	81	19		79
Bosnia and Herzegovina	80	18		154
FYR Macedonia	63	37		113
Serbia	48	50		56
Initial interest rate	Median rate		Maximum rate	
	Local currency loans	Euro-denominated loans	Local currency loans	Euro-denominated loans
	%			
Bulgaria	8.305	7.845	10.086	8.6
Croatia	10.033	5.468	15.455	7.742
Czech Republic	4.992	..	5.514	..
Hungary	10.952	4.467	13.002	7.813
Poland	6.59	5.045	8.032	6.948
Romania	8.726	6.393	11.185	6.69
Albania	12.537	7.995	13.671	8.442
FYR Macedonia	13.013	8.979	14.303	9.397
Serbia	21.64	5.62	21.69	5.62
Interest rate differential local versus foreign currency loan	At the time the loan was taken out			In 2014
	Minimum	Median	Maximum	Median
	<i>Percentage points</i>			
Bulgaria	0.37	0.93	1.49	-0.43
Croatia	3.59	4.78	7.71	4.37
Hungary	2.14	5.55	8.81	1.06
Poland	0.10	1.08	2.52	2.13
Romania	2.31	2.74	5.75	0.00
Albania	3.40	5.08	6.66	1.84
FYR Macedonia	2.61	3.71	5.32	2.61
Serbia	12.01	16.02	17.72	11.12

Source: OeNB Euro Survey, national central banks.

Note: The percentage of variable versus fixed rate loans is based on Euro Survey results. The initial interest rate is obtained by combining information from the Euro Survey about the year in which the loan was taken out with data from the respective national central banks on the interest rate of housing loans. The interest rate differential is calculated only for foreign currency loans as the difference between the rate on local currency loans minus the rate on foreign currency loans (obtained from the national central banks) at the time the loan was taken out and in 2014. Central bank data on interest rates are not always available for the year in which the loan was taken out. In such cases, the earliest available interest rate is used. Bosnia and Herzegovina is excluded as interest rate data have only been available since 2012. EU countries and non-EU countries in alphabetical order.

Amid unfavorable developments for holders of foreign currency mortgages, however, CESEE households in general were hit particularly hard by the global financial crisis, with private consumption declining on average in seven out of ten countries and real income stagnating or even decreasing between 2009 and 2013 (EBRD, 2011; Corti and Scheiber, 2014). Chart 5 illustrates that the effect of the

Table 4

Exchange rate developments affecting households holding mortgages in euro

	Mean	Minimum	Maximum
	Percentage change since mortgage was taken out		
Croatia	3.20	-0.12	12.22
Hungary	20.13	10.04	24.46
Poland	7.03	4.02	10.61
Romania	20.74	-0.31	123.08
Albania	8.47	-1.61	14.06
FYR Macedonia	0.41	0.07	0.71
Serbia	27.82	3.69	60.74

Source: OeNB Euro Survey.

Note: The values show the percentage change in the average annual exchange rate from the year the euro-denominated loan was taken out to 2014. Positive values indicate a depreciation of the local currency against the euro. Bulgaria and Bosnia and Herzegovina are not shown as they operate a currency board. In the Czech Republic, there are no euro-denominated mortgages.

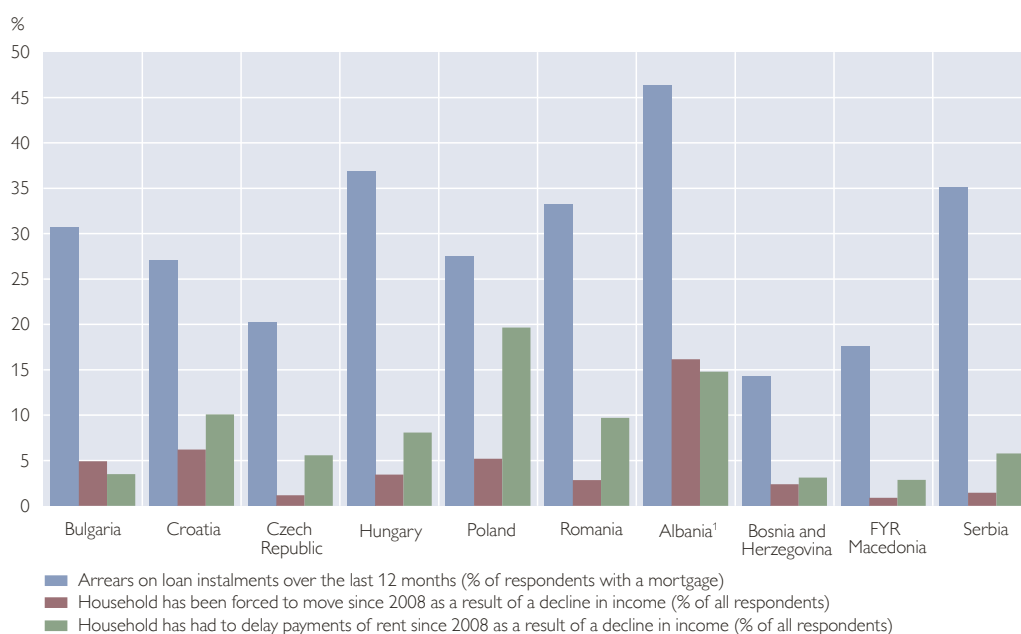
crisis on CESEE households also affected the housing market. Looking at all survey respondents, including those who do not hold a mortgage, between 1% (FYR Macedonia) and up to 16% (Albania) state they have had to move house since 2008, and up to 20% (Poland) of respondents say they have been late with rent payments as a result of a decline in income.

Regarding mortgages, survey results on loan arrears are, of course, not directly comparable to aggregate results on NPLs (chart 1). Chart 5 shows that up to 29% (Hungary) of respondents with a mortgage had been in arrears on loan repayments during the

year prior to the Euro Survey interview. Unlike the analysis of aggregate data, our analysis of survey results also shows whether repayment difficulties are higher for holders of foreign currency mortgages. We find that loan arrears on mortgages in foreign currency are significantly higher than loan arrears on local currency mort-

Chart 5

Households' financial difficulties



Source: OeNB Euro Survey.

¹ For Albania, data on arrears are for fall 2014 only.

Note: Data on arrears represent the average of values from fall 2010 to fall 2014. Data on the categories "forced to move" and "delayed rent payment" are for fall 2013. Results are based on the following Euro Survey questions regarding loan arrears: "Has your household been in arrears on loan repayments once or more during the last 12 months on account of financial difficulties?" Values show the percentage of mortgagors who replied "Yes, once" and "Yes, twice or more." For the phrasing of the remaining two questions, see notes to table 5. EU countries and non-EU countries in alphabetical order.

Table 5

Mortgagers: financial situation and outlook

Mortgagers...	In arrears	Not in arrears
	% of mortgage-holding households	
...reduced the amount spent on everyday expenses	89	79
...reduced or postponed larger expenditures	87	70
...reduced money set aside for savings	59	55
...utilized savings or sold possessions	55	33
...delayed payment of other bills	67	17
...received financial help from family or friends	48	22
...borrowed money from another source	33	11
...increased working hours or took up additional work	47	29
...had to take more than seven financial measures to cope with the crisis	48	9
...could borrow a significant amount from family/friends	43	52
...expect financial situation of their household to improve	42	46

Source: OeNB Euro Survey.

Note: Results are based on the Euro Survey question "Since the outbreak of the economic crisis in 2008, has your household had to take any of the following measures as a result of a decline in income or other economic difficulty? Please name all that apply." Respondents could choose from a list of 15 different possible reactions. Values given under "...had to take more than seven financial measures to cope with the crisis" represent the percentage of respondents who named more than 7 reactions out of the total of 15. The category "...could borrow a significant amount from family/friends" is based on the question "Generally speaking, would you have the possibility to borrow a significant amount of money from the family or a friend?" Values represent the percentage of respondents who answered "Yes, almost certainly" or "Yes, probably." The category "...expect financial situation of their household to improve" is based on the following question: "Please tell me whether you agree or disagree with the following statement: Over the next 12 months, I expect the financial situation of my household to get better." Values represent the percentage of respondents who agree with this statement.

gages in Serbia and Hungary; in the remaining countries there is no significant difference.

However, while we find that the percentage of mortgages held with foreign-owned banks is roughly equal to that held with domestically owned banks (34% versus 35%), we find that arrears on mortgages held with domestically owned banks are significantly higher (27% versus 23%). This is in line with results presented by Beckmann et al. (2015) showing that foreign-owned banks have debtors with higher incomes.

One central question in the research on mortgage arrears is whether households strategically default on their mortgage (e.g. Guiso et al., 2013), especially when they expect that law enforcement is weak or that the government will bail them out. Table 5 provides descriptive evidence on the severity of households' loan arrears and expected income developments. It shows that mortgagers in loan arrears are significantly worse off than mortgagers who are not in arrears. At the same time, they do not expect their income situation to improve. According to the literature, households that default strategically will usually be able to meet other payments and also have access to informal sources of borrowing (Anderson et al., 2013). The descriptive evidence presented in table 5 suggests that in CESEE, mortgagers in loan arrears are genuinely unable to pay and that there is little indication of strategic default.

4 Conclusion

In this paper, we provide an update of macroeconomic developments in the residential property markets in Central, Eastern and Southeastern Europe (CESEE), complemented with unique evidence from the OeNB Euro Survey about CESEE

households' assessment of their current housing situation, demand for housing loans and the risk-bearing capacity of households holding a mortgage.

Many CESEE countries went through a pronounced boom-bust cycle of house prices during the financial crisis. Recently, there has been some indication that house prices are recovering but so far they have not returned to precrisis levels. Since the global financial crisis, housing loan growth has been very low or even negative in some CESEE countries.

Evidence from the OeNB Euro Survey confirms that the rate of homeownership remains high in CESEE and that the majority of CESEE households are satisfied with their current residence. At the same time, almost every third respondent states that finding a new residence would be difficult. The perceived difficulty of finding a new residence is particularly high in areas with lower bank penetration. Despite the strong precrisis growth in mortgage finance, participation in mortgages remains relatively low in CESEE compared with the euro area countries. This may indicate a need for improving access to loans in order to meet the demand for housing. However, better access to loans should be complemented by governments taking steps to improve the regulation of housing markets and housing finance systems.

We also find that the perceived difficulty in finding a new residence is particularly high among low income households and those whose highest level of education is primary education. Mortgage rejection rates are also particularly high among this group. Thus, other measures – especially with regard to the rental market – may be needed to address the demand for housing of socioeconomically vulnerable households. Supporting the development of the rental market may also help improve labor mobility, which is particularly important for the Western Balkan countries, which post very high (structural) unemployment rates.

Regarding the stock of existing mortgages, we find that mortgagors, in general, are more creditworthy and appear better equipped to bear adverse shocks. While the share of foreign currency loans remains high, however, it is now declining in the majority of CESEE countries following policy measures to curb foreign currency lending. We find that the risks emanating from both the exchange rate and the interest rate differential for households holding a foreign currency mortgage have increased. At the same time, the percentage of loan arrears is higher among holders of foreign currency mortgages than among holders of local currency mortgages only in Hungary and Serbia.

In general, the ratio of nonperforming loans (NPLs) to total loans is high and increasing in most countries analyzed. Looking in more detail at the financial position of households in loan arrears, we do not find evidence that households are defaulting strategically. Instead, we find that they are at their financial limits, and that focusing on restructuring foreign currency loans only will not suffice to resolve the NPL problem.

This is particularly important as survey evidence shows that demand for mortgages is growing again in CESEE. If banks do not meet this rising demand, households may resort to informal, unregulated sources of borrowing.

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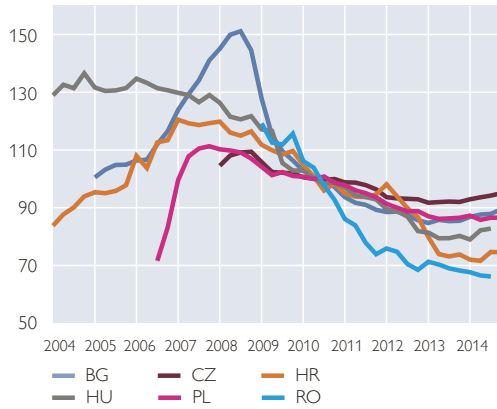
Annex

Chart A1

House prices in CESEE (in real terms)

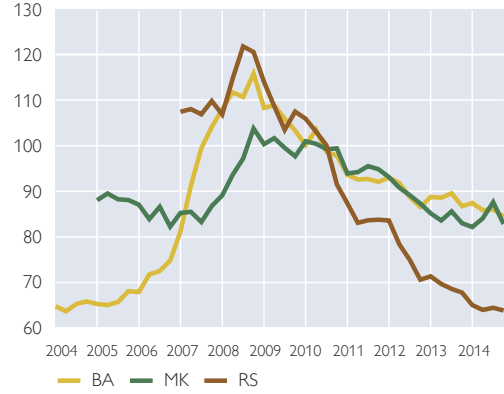
CESEE EU Member States

Index, 2010=100



Western Balkan countries

Index, 2010=100



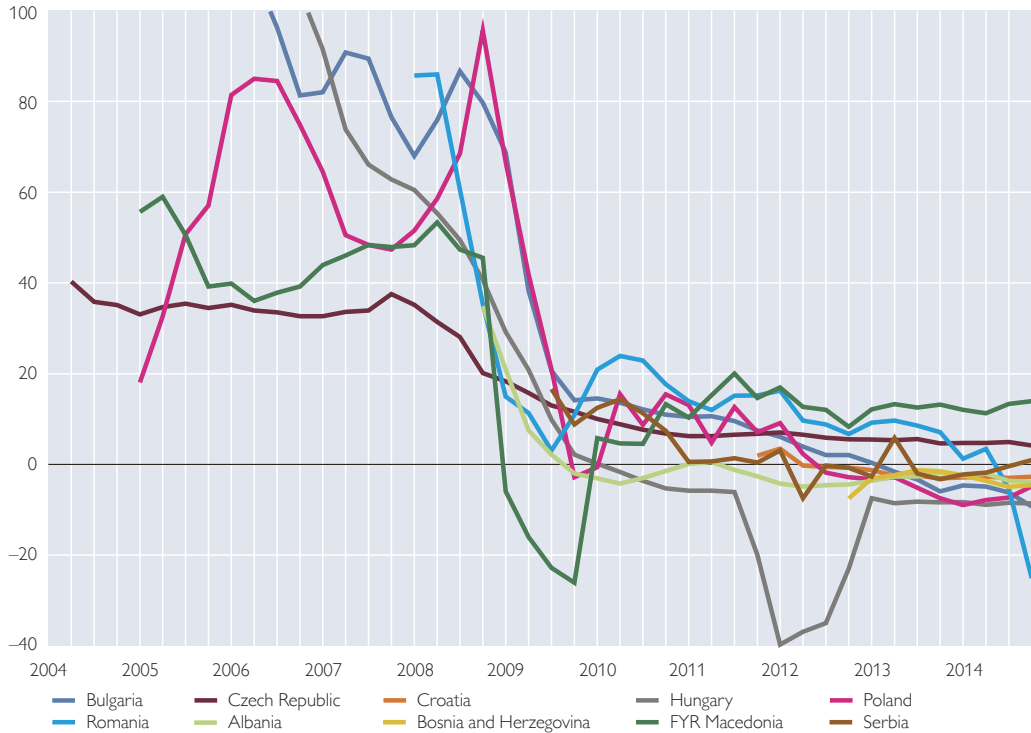
Source: BJS, Eurostat, FHB (www.fhbindex.com/FHB-Index), national central banks, National Mortgage Insurance Corporation (www.nkosk.rs). For Albania, data are not publically available.

Note: House price data cover different areas. Bulgaria: large cities; Croatia, Czech Republic, Hungary and Romania: whole country; Poland: large and medium-sized cities; Bosnia and Herzegovina: capital city (three city municipalities) and three other regional centers (Tuzla, Mostar and Zenica); FYR Macedonia and Serbia: capital city.

Chart A2

Growth of housing loans in CESEE

%, exchange rate adjusted



Source: ECB, national central banks, OeNB.

5. Implementation of the Mortgage Credit Directive – the scope of changes, issues of concern and their potential impact on the Polish mortgage sector

Agnieszka Nierodka



Agnieszka Nierodka – Economist, Polish Mortgage Credit Foundation

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ABSTRACT:

In February 2014, the European Parliament approved the text of a new Mortgage Credit Directive, ending more than two years of work on the unification of the mortgage market in Europe. EU Member States have had two years to adapt their national legislations to the new requirements – the deadline for implementation of the Directive expires in March 2016. Although the final version of the Directive, whose aim is to harmonize and raise the standards of offering mortgage loans in the EU, was made significantly more relaxed relative to the original assumptions, this does not mean that implementation of the new regulations will be easy for the financial sector.

The purpose of this article is to present the main provisions of the Mortgage Credit Directive, its planned implementation into Polish law and the major challenges related to the process.

JEL CLASSIFICATION: G180, G210, K200

KEYWORDS: *Mortgage Credit Directive, mortgage regulation, consumer protection*

1. Origin of the Mortgage Credit Directive

On 04/02/2014, the European Parliament adopted the Directive on credit agreements for consumers relating to residential immovable property (hereinafter: the Mortgage Credit Directive/MCD)¹. Its adoption ended almost 10 years of work aimed to strengthen the integration of the EU mortgage market. Although initially regulation of the mortgage market via a Directive was not anticipated and the priority was to achieve a situation where the same mortgage credit is offered to consumers throughout the EU at the same price, the outbreak of the financial crisis of 2007–2008 changed that viewpoint. At first, regulators' attention was focused on the issue of banks' access to sources of cheap funding and cross-border activities of financial institutions, then, on issues of consumer protection and responsible mortgage lending. According to regulators, the introduction of the arrangements provided for in the Directive should "improve conditions for the establishment and functioning of the internal market through approximation of legislations and adoption of quality standards and promotion of good practices."²

The thus deepened definition of the Directive's purpose caused the scope of the regulation, as provided for in the act, to be very broad. The Directive not only extends its scope over all the entities that may be involved in mortgage credit service (some will be regulated for the first time) but will also apply to all stages of the credit life – from advertising and general information about mortgage credit, through the terms of credit offering and lending, ending with credit repayment and foreclosure. Given the above, it is clear that although the act does not directly regulate the parameters affecting lending policies of banks, such as limits on LTV/DTI or the maximum duration of the loan, the Directive may nonetheless have a significant impact on the shape of the credit market in the coming years.

¹Cf. text of the Directive 2014/17/EU:

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0017&from=EN>

²Recital 8 in the preamble to Directive 2014/17/EU.

2. Current legal regime for housing loans in Poland and the scope of incoming changes

In addition to general regulations governing lending, as outlined in the Banking Law (in particular in Articles 69-79), loans secured by mortgages granted to consumers have been subjected to the regime of the Consumer Credit Act (hereinafter: CCA). It should be emphasized that only 6 articles of the act apply to mortgage loans, in particular those which regulate: the scope of pre-contractual information and the manner of its transmission in a standardized Information Form (annexed to the act), the requirement to conclude the credit agreement in writing, the scope of the mortgage credit agreement and the free credit sanction. It is worth noting that the CCA application to mortgage credit was related to implementation of the Consumer Credit Directive (CCD) in Poland³. Although mortgage-backed loans were excluded from the scope of the CCD, the national legislature had the opportunity to make those loans fall under provisions compatible with the Directive. This was the approach adopted by Polish legislature, opting to make mortgage credit partially subject to the Consumer Act regime. With this solution, a mortgage consumer was to be guaranteed a similar level of protection as that for consumer credit, all the more so that mortgage loans involve considerable long-term financial burdens.

Discussing the scope of regulations on mortgage credit in effect in Poland to date one cannot omit “Recommendation S on good practices in the management of mortgage-secured credit exposures.” The first version of Recommendation S was published by the Polish Financial Supervision Authority in 2006, since then – in response to changing market realities – it has been amended three times. Although PFSA recommendations do not belong to the catalogue of generally applicable legislation, and their range is restricted solely to lenders supervised by the PFSA, these regulations are widely used by the industry, having a significant impact on banks’ lending policies. In this context, one notes especially: (i) the credit limits imposed by Recommendation S (reducing both LTV and the maximum loan maturity; earlier versions of the regulation also included a limit on DTI); (ii) regulations concerning the rules of conduct with a mortgage consumer (including information on mortgage credit risks); (iii) strict guidelines on the structure of the bank (including the requirement to separate sales and credit risk assessment departments within the bank) and remuneration of the employees offering mortgage credit. Already existing provisions of Recommendation S largely coincide with the new requirements introduced by the MCD.

³Earlier, the CCA applied only to mortgage credit below PLN 80,000.

As a rule, offering mortgage credit in Poland is already subject to quite specific rules, however, the wide scope of the new Directive means that its implementation into national law will nevertheless not be an easy task. It is worth noting that even at the current stage of work, a fundamental change has been made in the philosophy of the MCD implementation; initially, law-makers planned to do this by developing a new act on mortgage credit, comprehensively covering the range delineated by the Directive.⁴ At a later stage, this concept was changed; it was decided that MCD implementation would be made by amending the Consumer Credit Act and by adopting a new act on the activities of loan institutions and credit intermediaries.⁵ According to law-makers, that solution will ensure greater regulatory transparency for consumers; still, some problems may arise from the fact that the credit act will not be symmetrical – i.e. due to the fact that the MCD has a much wider scope than the CCD – the credit act will place much greater emphasis on mortgage credit.

It should be noted that the Polish legislature decided to take avail of the opportunity to broaden the scope of the regulation, as provided for in Recital 13 of the MCD, extending it to all mortgage loans concluded with the consumer (and not just housing loans), excluding specific types of credit, as indicated in the directive. Where it comes to entities covered by the new act, it will apply to banks, credit unions (SKOKs) and credit institutions; for the first time, the regulation will apply to credit intermediaries and appointed representatives; the act will also affect the activities of institutions overseeing the market, i.e. PFSA and UOKiK (Office of Competition and Consumer Protection).

The purpose of this analysis is to trace the major changes that will be brought about by the regulation on the mortgage lending market for consumers and their consequences for the banking sector in Poland.

⁴ Cf. draft assumptions for the act on loans related to immovable property of 06/02/2015 – <http://legislacja.rcl.gov.pl/docs//1/12269251/12275741/12275742/dokument149564.pdf>

⁵Cf. the version of the draft assumptions for the act on activities of lending institutions and credit intermediaries, which will also provide for amendments to the Consumer Credit Act of 8/10/2015 – <http://legislacja.rcl.gov.pl/docs//1/12269251/12275762/12275763/dokument188192.pdf>

3. Analysis of selected provisions of the new Directive which are of key importance for the mortgage sector

3.1. Knowledge and competence requirements for staff

Bearing in mind the need to ensure professionalism in offering mortgage loans, the text of the Mortgage Credit Directive emphasizes the requirement to demonstrate an adequate level of **knowledge and competence of banks'/credit intermediaries' staff**⁶ with regard to offering, drafting and concluding credit agreements (Article 9). Member States will be required to establish minimum competence requirements the scope of which has been established in the act. It should be emphasized that the competency requirements for staff are specifically (although broadly) identified and made subject to cross-border harmonization. As prescribed in Annex III of the Directive, the minimum competence requirements must include at least the following:

- a) appropriate knowledge of credit products within the scope of the Directive and the ancillary services typically offered with them;
- b) appropriate knowledge of the laws related to the credit agreements for consumers, in particular consumer protection;
- c) appropriate knowledge and understanding of the immovable property purchasing process;
- d) appropriate knowledge of security valuation;
- e) appropriate knowledge of organization and functioning of land registers;
- f) appropriate knowledge of the market in the relevant Member State;
- g) appropriate knowledge of business ethics standards;
- h) appropriate knowledge of the consumer's creditworthiness assessment process or where applicable, competence in assessing consumers' creditworthiness;
- i) appropriate level of financial and economic competency.

According to the assumptions for the act implementing the MCD, by 21/03/2019 the condition that will meet the requirements of appropriate knowledge and competence is to have a minimum of five years proven experience associated with the conclusion of credit agreements relating to immovable property or to have the appropriate qualifications

⁶ According to the definition set out in the Directive (Article 4), "staff" means "any natural person working for the creditor or credit intermediary, who is directly engaged in the activities covered by this Directive or who has contacts with consumers in the course of activities covered by this Directive."

evidenced by diplomas. At an earlier stage of work on the draft act the above “appropriate qualifications” were narrowed down to economic or legal training, but then the limitation was rightly abandoned. At the same time, even in the transitional period, the employer will be able to send its employees to training whose thematic scope will coincide with the requirements of Annex III of the Directive and to test competency. After the transitional period, the only way to meet the requirements regarding knowledge and competency is to take part in training, ending with an exam. It should be noted that, at this stage, the legislation provides that employees will have to undergo the training every year!

From the point of view of the banking sector, compliance with the new training requirements will cause several fundamental problems. First, given the very wide range of staff subject to the training requirement the cost of the undertaking will be very high. At the same time, it must be emphasized that, although according to Section 2 of Annex III, Member States may vary training requirements for staff members, for the time being the assumptions for the act do not provide for such a solution. Here, the question arises whether it is appropriate to require e.g. an employee assessing consumer’s creditworthiness to have knowledge of the land registry. At the same time, further clarification is required with regard to the need for annual training, i.e. whether for those who have already received training a year earlier another course would be meant to refresh previously assimilated material or whether staff must undergo the entire training anew.

3.2. Information provided to consumers

Stressing the need to enhance consumers’ ability to make informed decisions in the area of responsible borrowing, the MCD has broadly regulated the catalogue of information to be communicated to the mortgage credit consumer. The Directive introduced rules for the transmission of information to the consumer at three stages: (i) advertising, (ii) general information about the credit offer; (iii) standardized pre-contractual information.

The standard range of information communicated in **advertising** (Article 11 of the Directive) provides that the consumer should be provided “in a clear, concise and prominent way” with the following information:

- a) name of the creditor/credit intermediary;
- b) where applicable, that the credit agreement will be secured by a mortgage or another comparable security on residential immovable property;

- c) the borrowing rate, indicating whether this is fixed or variable or a combination of both, together with particulars of any charges included in the total cost of the credit to the consumer;
- d) the total amount of credit;
- e) the APRC (with a special indication that the APRC will be included in the advertisement at least as prominently as any interest rate information);
- f) where applicable, the duration of the credit agreement;
- g) where applicable, the amounts of the installments;
- h) where applicable, the total amount payable by the consumer;
- i) where applicable, the number of installments;
- j) where applicable, a warning about the currency risk.

The text of the act emphasizes that the above information should be clearly readable/audible, but does not specify any minimum requirements in this regard. The Polish legislature has decided to clarify the requirements somewhat, stipulating that "the font used, and the time within which the information is displayed must allow it to be read by the consumer." Still, given the fact that the scope of the advertising information is very broad, a concern arises whether the message would even be readable for consumers. Additionally, one should bear in mind that according to the PFSA guidelines "all relevant elements of the advertising message (specifically those required by law) should be tailored to the specific nature of the medium used for its dissemination."⁷ In addition, the omission of required information in an advertising message or placing it in such a way that would prevent it from being easily read/heard constitutes, according to the PFSA (and UOKiK), an advertising message which might be misleading. Given the above, it cannot be precluded that once the new regulations on credit secured by immovable property enter into force advertising will focus solely on the press.

An advertising message should be based on a **representative example**, on the basis of the criteria adopted by the Member State. In the case of Poland, provisions of Article 8(2) of the Consumer Credit Act will apply here, which stipulate that "When determining the representative example, it is necessary to define the terms of a consumer credit agreement on which the creditor or the credit intermediary expects to conclude at least 2/3 of the contracts of that type, with the agreements taking into account the average financing period, the total

⁷Cf. letter of the Polish Financial Supervision Authority of 13 April 2012:- Standards of care in designing advertising information about consumer credit, Ref. DOK/WPR/0735/5/1/12/BK, https://www.knf.gov.pl/Images/stanowisko_ws_reklam_ZBP_KZBS_13_04_2012_tcm75-30286.pdf

credit amount and the incidence of contracts of that type on the market." At this point, it should be emphasized that the current wording of the assumptions for the Credit Act indicates that when determining the representative example account must be taken of the conditions of the credit agreement secured by immovable property, based on at least 2/3 of contracts of that type that are in the portfolio of that creditor..." It is not clear whether these tighter rules for determining the representative example (expected contracts vs. agreements actually concluded) were intended by the legislature or resulted from an editorial error; if the former, it is not clear how often to update the data about the type of contracts existing in the creditor's portfolio; assumptions for the draft act do not, for the time being, provide any clarification in this regard.

Apart from the information conveyed in advertising, Member States will also be required to ensure that **general information about credit agreements** is made available to consumers by creditors/intermediaries at any time on paper/electronically/on another durable medium. The Directive specifies a detailed and wide scope of such general information. New features introduced by the Polish law implementing the MCD include an obligation imposed on creditors to publish current regulations and the credit agreement template on their website. Furthermore, under the new requirements, at a written request of the consumer, the creditor will need to provide a copy of the credit decision sent to the credit intermediary – this solution is to prevent unfair practices where an intermediary recommends to a customer a credit offer which is more beneficial for the intermediary, arguing that the consumer has no creditworthiness at other banks.

A revolution, introduced by the Mortgage Credit Directive, is to be the adoption of a unified catalog of **pre-contractual information** provided to the consumer prior to conclusion of a credit agreement, having the form of a "European Standardised Information Sheet" attached as Annex II to the Act (the Form is subject to maximum harmonization).

Pre-contractual information in a tabular form is to be provided to the customer: (i) without undue delay, once the consumer delivers the required information necessary to complete the form; (ii) prior to conclusion of a credit agreement. At the same time, the act introduces a caveat that a credit offer must be accompanied by an information sheet if it has not already been provided or if the **characteristics** of the offer differ from the information contained in the previously submitted ESIS. Unfortunately, the Directive does not specify the term "characteristics" used in the above context. It is worth noting that an attempt to clarify

the above definition was made at early stages of work on the assumptions.⁸ It was indicated at the time that "the characteristics of an offer shall be construed as, among other things, main features of a loan, interest rate, the frequency and number of payments, the amount of each installment or other characteristics whose alteration will change credit parameters." In this context, it should be noted, however, that – given the size of the ESIS – requiring banks to re-submit the table in the case of changes in credit interest rates would be very costly to them, while providing no added value for the consumer. At the stage of work on the draft act it would be recommended to indicate that a change of offer characteristics would include a change of the credit margin or a change of the type of reference rate (e.g. from WIBOR 3M to WIBOR 6M) – and not a nominal change of the credit interest rate.

In the context of the obligation to provide pre-contractual information, essential to the Polish market will be the **transitional period** provided for in Article 14 (5) of the Act, according to which the Member States which, before the effective date of the Directive, "have implemented an information sheet that meets equivalent information requirements (...) may continue to use it until 21 March 2019." Although the Information Sheet used in Poland (under the Consumer Credit Act) for a mortgage credit contains the scope of information similar to that of the ESIS the Polish legislature decided that banks would only have a 12-month transitional period calculated from the effective date of the Act. According to the MF (Ministry of Finance), the new form is much more transparent and more accurate, moreover – as compared to the one currently used – it contains new information: on the provision of advisory services, on the intermediary's remuneration, a simulation of each installment amount.

Given the expenditures related to implementation of information forms into banking procedures (in particular IT costs), it seems that, in order to reduce the total cost of implementing the MCD in Poland, it would be more appropriate to extend the transitional period as far as possible, allowing the use of the old information form for mortgage credit. It is bizarre that on the one hand, the law-makers argue that faster implementation of the new form constitutes an added value for the consumer, while on the other hand, they state explicitly (in the context of loans in foreign currency) that pre-contractual information does not work for many customers – cf. "Identification of information requirements does not reduce risks because – as practice shows – many borrowers did not understand and in the

⁸Cf. the assumptions for the Act, dated 18/06/2015, p. 28.

future probably will not fully understand the specifics of the credit liabilities incurred, including the sources of risk..."⁹

3.3. Reliable rules for mortgage lending

The new Directive contains general rules meant to ensure that while offering mortgage credit to consumers creditors/intermediaries observe the **rules of business ethics**. In particular, the Directive instructs in Article 7 to act “honestly, fairly, transparently and professionally” in a relationship with the consumer. At the same time, the regulation introduces a requirement that **staff remuneration systems** do not impede compliance with the above requirement and be consistent with the risk management policy. It is stated clearly that remuneration policies for staff responsible for assessing creditworthiness should not prejudice their ability to act "in the best interest of the consumer." While it seems that the requirement existing in Poland to separate the functions of sales and credit risk assessment generally satisfies this condition¹⁰, in the assumptions for the Act the legislature has decided to clarify that the incentive system for creditor/intermediary staff "should not be dependent solely on sales targets but should be linked to risk management through measures including compliance with internal risk mitigation regulations and compliance with internal credit standards."

Although, under the Directive, Member States may “prohibit or impose restrictions on payments from a consumer to a creditor or credit intermediary prior to the conclusion of a credit agreement” the Polish law-makers have decided not to take avail of this option. To increase transparency, however, a proviso was added, that the information on the remuneration earned by an intermediary from a given bank is public and should be provided to the consumer (no later than with the ESIS). It should be noted that the intermediary will be required to inform the consumer not only about the commission received from creditors but also about "all remuneration paid by a particular creditor, directly and indirectly dependent on the signed agreement"! The problem in this context is the fact that each intermediary will provide the consumer with this information according to their own methodology and based on the cooperation model used with the bank, i.e. some remuneration rates will be given in PLN while others as percentages, which will in turn prevent the consumer effectively from

⁹Page 42 of the assumptions.

¹⁰According to PFSA Resolution No. 258/2011 on detailed rules of operation of the risk management system and internal control system, and the specific requirements for internal capital assessment by banks and for review of the internal capital assessment and maintenance process, and the rules of setting a policy of variable remuneration components for persons holding managerial positions at a bank, https://www.knf.gov.pl/Images/uchwala_258_tcm75-27888.pdf.

comparing those values. There is a great danger that the new consumer right to obtain information will in practice be dead.

The Mortgage Credit Directive clearly differentiates the issue of providing information/clarification to customers from provision of **advisory** services to customers. "Advisory services" means the provision of personal recommendations to a consumer in respect of one or more transactions relating to credit agreements and constitutes a separate activity from the granting of a credit and from the credit intermediation activities. Prior to the provision of advisory services to a consumer, it is necessary to provide information on a fee for the service and on the basis for the recommendation given (the bank's own products or products from the entire market). At the same time, Member States may require that providers of advisory services have an obligation to alert consumers when – considering the financial situation of the consumer – the credit agreement can cause a particular risk for the consumer (however, what a "particular risk" is or what sanctions apply for lack of such a warning have not been specified). Polish law-makers decided not to take avail of this possibility, arguing that it is for the borrower to thoroughly examine the consumer's ability to repay liabilities, while those providing advisory services may be unable to perform a more detailed analysis, hence, conferring on them the obligation to provide additional warnings is unfounded. In order to emphasize a clear division between advisers and other market participants, it was decided instead to ban the use of the term "adviser" and "advisory services" in a situation where advisory services are offered to consumers by creditors/credit intermediaries.

An entirely new issue from the point of view of the Community market, but which does not usher a revolution on the Polish credit market,¹¹ is the establishment of the **obligation to assess consumers' creditworthiness** before concluding a credit agreement and to grant the credit only if the result of this assessment indicates that the obligations arising from the credit agreement are likely to be performed as required by the agreement. If a credit application is rejected by the bank the information to that effect should be communicated immediately to the consumer, however, it should be stressed that the customer needs not be informed about the reason for the negative outcome of the creditworthiness assessment (Polish law-makers considered the introduction of such a provision but eventually refrained from it). The text of the Directive itself does not provide for stricter regulation of the rules for

¹¹According to **Article 70 (1)** of the Banking Law.

assessing consumer's creditworthiness but it should be borne in mind that the guidelines on this issue had already been issued by the European Banking Authority (EBA).¹² In its recommendations, the EBA notes that in order to properly fulfill the provisions of Article 18 of the MCD, banks should consider the following requirements:

1. Verification of consumer's income,
2. Storage of relevant documents for the assessment of creditworthiness (at least for the duration of credit life),
3. Preventing mistakes and misrepresentations that could disrupt the process of assessing creditworthiness,
4. Examination of the consumer's ability to meet the obligations arising from the credit agreement,
5. The need to take into account consumer's fixed expenditures in assessing his creditworthiness,
6. Taking into account possible negative scenarios in the assessment of creditworthiness.

As a rule, the new requirements of the Directive do not differ substantially from those already existing in Poland, it should be noted, however, that procedures for assessing creditworthiness used by the banks offering housing loans require amendments. As noted by the Polish Financial Supervision Authority, where a buffer rate was applied by banks (data for December 2014), as many as 19 banks (out of 23 analyzed) used a buffer rate lower than 3 percentage points, of which 7 banks assumed an interest rate growth not higher than 1 percentage point! In addition, a practice often used by banks is to lower customer's living expenses to a level inadequate to the costs actually incurred by the borrower and his family; over 47% [of loans] in 2014 were granted on the assumption that the borrower's living expenses were at or lower than the minimum subsistence level.¹³ Bearing in mind the need to implement new regulatory requirements, and above all, the sector stability, banks should modify the above practices in assessing consumer creditworthiness.

¹² *Final report on guidelines on creditworthiness assessment*, EBA, June 2015
<https://www.eba.europa.eu/documents/10180/1092161/EBA-GL-2015-11+Guidelines+on+creditworthiness+assessment.pdf>

¹³ *Report on the situation of banks in 2014*, PFSA Office, Warsaw 2015, pp. 77-81,
https://www.knf.gov.pl/Images/RAPORT_O_SYTUACJI_BANKOW_2014_12_tcm75-41472.pdf

3.4. Foreclosure

Due to the diversity of national rules on foreclosure and social sensitivity of the subject, for many years now it has remained outside the scope of Community regulations. The outbreak of the financial crisis, however, has prompted the European Commission to address the situation of overindebted consumers having problems with credit repayment and those evicted from immovable property. The EC began to emphasize that: (i) foreclosure should be used as a last resort, (ii) if there are signs that the consumer has problems with servicing the loan, it is advisable to establish a dialogue to solve the problem (e.g. to renegotiate the repayment period or other terms of the credit), (iii) if the dialog fails, one should consider advisory services for the consumer on debt management.¹⁴ Also the MCD text speaks in this vein; rather than focusing on the foreclosure process it advises banks to adopt practices that take into account the consumer's plight and will not allow a debt circle to arise¹⁵.

According to Article 28, Member States should adopt measures to encourage creditors to "exercise reasonable forbearance before foreclosure proceedings are initiated." In addition, countries can impose on creditors a requirement that any charges arising from a default are "no greater than is necessary to compensate the creditor for costs" it has incurred as a result of the default (or Member States may place a cap on such charges). At the same time the directive calls on the Member States to adopt procedures to enable the best efforts price for the foreclosed immovable property to be obtained.

Implementing the provisions of Article 28, the legislature decided to require banks to undertake restructuring measures before foreclosure initiation. Under the new rules, a consumer who defaults on a loan will be asked to pay the overdue amount within a maximum of 14 days, also the request should inform the consumer about the right to apply for debt restructuring (the application must be made within 14 days of receipt of the request). If the consumer files such an application the creditor may examine whether restructuring is

¹⁴ *National Measures and practices to avoid foreclosure procedures for residential mortgage loans*, SEC (2011)357, European Commission, 2011 http://ec.europa.eu/internal_market/finances-retail/docs/credit/mortgage/sec_2011_357_en.pdf.

¹⁵ A similar tone is found in the recommendations of the European Banking Authority (EBA) – cf. *Opinion of the EBA on good practices for the treatment of borrowers in mortgage payment difficulties*, EBA, June 2013 <https://www.eba.europa.eu/documents/10180/604521/EBA+Opinion+on+Good+Practices+for+Borrowers+in+Payment+Difficulties.pdf>

justified given the financial situation of the consumer. If the application for restructuring is rejected the customer should be fully informed about the reason for the rejection¹⁶.

If the customer does not consent to/qualify for restructuring (or it has not been effective) the next step is to sell the property. And again – first, the customer must be allowed to sell to the best bidder, as a solution financially most optimal for the customer. In their current wording, the assumptions do not clarify the issue of the property sale by the consumer on the market; this should certainly be done at the stage of work on the act. In particular, it is necessary to indicate the maximum period during which the consumer should transact the sale of the property. Otherwise, a situation may arise where the consumer theoretically puts the property for sale but prices it considerably too high, thus precluding chances of actually selling it, while the bank will not be able to foreclose because of being “required to allow the consumer to sell the property.”

Foreclosure will only be the last stage of proceedings at the bank in the absence of debt service. If after selling the property the consumer still has an outstanding debt the creditor should enable repayment in installments tailored to the consumer’s income.

In this context, it should be borne in mind that also the issue of foreclosure has become an object of interest to the EBA. In June 2015, the EBA issued a set of recommendations accompanying Directive 2014/17/EU¹⁷ which banks should implement by 21/03/2016. The EBA guidelines require banks to undertake, among others, the following measures:

1. Implementation of relevant policies and procedures (early detection of consumers that may have problems with repayment and appropriate procedures for handling consumers who have problems with repayment);
2. Cooperation with the consumer (e.g. respect for consumer privacy, appropriate communication with the consumer);
3. Information and support for the consumer;
4. Restructuring (taking into account the individual circumstances of the consumer);
5. Documentation (the bank must demonstrate why the restructuring measures are appropriate for the consumer; records should be archived for a reasonable time).

¹⁶ It is worth noting that the last amendment of the Banking Law requires banks to allow (under certain conditions) debt restructuring for all – not just mortgage – credit, cf. Article 75 c of the Act of 25 September 2015 Amending the Banking Law Act and other acts, http://orka.sejm.gov.pl/proc7.nsf/ustawy/1441_u.htm

¹⁷ *Final report on guidelines on arrears and foreclosure*, EBA, June 2015 <https://www.eba.europa.eu/documents/10180/1092172/EBA-GL-2015-12+Guidelines+on+arrears+and+foreclosure.pdf/a16dfe3a-932c-4ff3-b4ff-8cf9f54799ca>

A significant change will also be made with regard to the possibility of charging interest on overdue debt (implementation of Article 28(3)); the Polish legislature decided to ban the use of additional debt collection charges beyond default interest. This means that default interest must be sufficient to cover the cost of debt collection from immovable property. Given the fact that a similar view (debt collection charges cannot be higher than penalty interest) was already expressed by the Court of Competition and Consumer Protection¹⁸, this regulation should not be a surprise. The previously advocated approach, i.e. the assumption that debt collection fees cannot be higher than the costs incurred by the creditor as a result of default, was rightly opposed by the SOKiK since the consumer has no knowledge about the costs actually incurred by the bank in the foreclosure process, and therefore he cannot verify whether the charges imposed on him are excessive or not.

It should be noted, however, that the regulations on foreclosure must be absolutely fine-tuned at a later stage of work on the act. The lack of precision in implementing these regulations would significantly weaken the effectiveness of the mortgage security, which in the long term could translate into a more costly mortgage credit and rating downgrades for Polish covered bonds.

3.5. Regulations concerning credit intermediaries

One of the heavily accented themes in the new Directive is the necessity to extend the regulation over credit intermediaries involved in mortgage lending. The activities of credit intermediaries had already attracted interest of the European Commission before the outbreak of the financial crisis; when developing the final text of the Directive it was stressed that irresponsible behavior of some market participants (including credit intermediaries) as well as "inefficiency, inconsistency or lack of systems for credit intermediaries"¹⁹ are problems which harm the EU's internal market. Considering the above, the Act introduced a number of regulations relating solely to intermediaries²⁰, including with respect to: (i) information obligations toward consumers, (ii) the requirements for admission of intermediaries and possible revocation of licenses, (iii) freedom to provide services by intermediaries, (iv) regulation of the supervision of intermediaries.

¹⁸ Cf. e.g. judgment of the Warsaw Regional Court of 11-03-2013, Ref. XVII AmC 1622/12, [http://orzeczenia.ms.gov.pl/content/\\$N/154505000005127_XVII_AmC_001622_2012_Uz_2013-03-11_001](http://orzeczenia.ms.gov.pl/content/$N/154505000005127_XVII_AmC_001622_2012_Uz_2013-03-11_001)

¹⁹ Recital 4 in the preamble to the Mortgage Credit Directive.

²⁰ It is important to note that intermediaries are also subject to regulations addressed both to them and to creditors (usually requirements regarding relationships of those entities with consumers).

The **definition of an intermediary** used in the Directive (Article 4 (5)) is similar to the definition used in Article 3 (f) of the Consumer Directive: “Credit intermediary” means a natural or legal person who is not acting as a creditor or notary and not merely introducing, either directly or indirectly, a consumer to a creditor or credit intermediary, and who, in the course of his trade, business or profession, for remuneration, which may take a pecuniary form or any other agreed form of financial consideration:

- (a) presents or offers credit agreements to consumers;
- (b) assists consumers by undertaking preparatory work or other pre-contractual administration in respect of credit agreements other than as referred to in point (a); or
- (c) concludes credit agreements with consumers on behalf of the creditor.”

The Mortgage Credit Directive has also added a new category, “tied credit intermediary”, which means “any credit intermediary who acts on behalf of and under the full and unconditional responsibility of:

- (a) only one creditor;
- (b) only one group²¹; or
- (c) a number of creditors or groups which does not represent the majority of the market.”

According to Article 34 of the Mortgage Credit Directive, credit intermediaries are subject to supervision by the competent authorities of the home Member State.

As mentioned above, a big revolution on the intermediation market might be the obligation to provide the consumer (before performing any activities related to credit intermediation) with information about the **existence of a commission** and – as far as is known – the amount of commissions or other incentives paid by the creditor or third parties to the credit intermediary for the intermediary’s services relating to the credit agreement. Where that amount is not known at the time the information is provided the credit intermediary will inform the consumer that the actual amount will be disclosed at a later stage in the ESIS²². As already indicated above, it cannot be precluded that because of the different models of remunerating intermediaries, which used in the market, this information will not be sufficiently clear to the consumer.

²¹“Group” means here a group of creditors who are subject to consolidation for the purposes of consolidated accounts as defined in Directive 2013/34/EU.

²² Even if the amount of the intermediary’s commission has been communicated to the consumer at the initial stage of the relationship, it should also be stated later in the ESIS.

The new Directive requires intermediaries to **obtain admission** issued in the home Member State by the competent authority. It will be issued subject to fulfillment of at least the following requirements: (i) possession of professional indemnity insurance by the intermediary, (ii) good repute of the natural person/members of the board of a credit intermediary established as a legal person, (iii) an appropriate level of knowledge and competence in relation to credit agreements as described above. All admitted credit intermediaries will be entered into a register which will be kept up to date and will be publicly available online. At least two of the above requirements can be problematic for intermediaries. First, as already mentioned above, the requirements in terms of **knowledge and competence**, as provided for by the Directive, are very broad and require annual updates (or retraining), which can be very costly. At this stage, it is difficult to anticipate the actual availability of this type of training for smaller financial intermediation companies, especially those located outside large urban centers. It is also not clear whether these intermediaries in general have been aware of upcoming changes and the resulting need for them to undergo training. Most likely, in the long term, the market will self-regulate, i.e. banks will only be interested in working with intermediaries entered in the PFSA register and prerequisites for entry will include completion of the relevant training; it is not clear, however, how long such adaptation to the new requirements will take and what the process of eliminating intermediaries unwilling to adjust to the new requirements will look like and how effective it will be.

Another issue problematic for intermediaries will be the need to obtain **indemnity insurance**. Terms of insurance have been harmonized throughout the EU under Delegated Regulation No 1125/2014²³, according to which the minimum amount of insurance has now been²⁴ set at EUR 460,000 for each individual claim; a total of EUR 750,000 per calendar year for all claims. Given the fact that the above amounts will not vary by the home Member State of the intermediary/the size of its activities, etc., the new requirements for insurance may turn out to effectively remove smaller intermediaries from the market, which has already been pointed out by the Polish Chamber of Insurance expressing its opinion on the above

²³ *Commission Delegated Regulation (EU) No 1125/2014 of 19 September 2014 supplementing Directive 2014/17/EU of the European Parliament and of the Council with regard to regulatory technical standards on the minimum monetary amount of the professional indemnity insurance or comparable guarantee to be held by credit intermediaries*, <http://eur-lex.europa.eu/legal-content/PL/TXT/?uri=CELEX:32014R1125>

²⁴ The above figures are to be reviewed by the Commission every two years

regulation²⁵. In addition, one has to consider the worst case scenario, i.e. a situation where none of the insurance companies operating in Poland will be interested in launching such insurance (at least in the initial period of the new regulation); neither the Directive nor the delegated regulation specifies what intermediaries, for whom possession of the insurance is a condition for doing business, should do in such a situation.

Under the new requirements, the sector of financial intermediation is to be supervised by the PFSA, the supervision not to consist solely of registration, therefore, the regulator will be entitled to verify compliance with the requirements for admission and fulfillment of the obligations imposed on the intermediary. However, given the degree of fragmentation of the financial intermediation sector in Poland, implementation of these tasks can be extremely difficult in practice.

²⁵ *Consultation on Professional Indemnity Insurance (PII) for mortgage credit intermediaries (EBA/CP/2013/46), Responses: Polish Insurance Association: http://www.eba.europa.eu/regulation-and-policy/consumer-protection-and-financial-innovation/draft-regulatory-technical-standards-rts-on-professional-indemnity-insurance-pii-for-mortgage-credit-intermediaries?p_p_auth=KKGTXww7&p_p_id=169&p_p_lifecycle=0&p_p_state=maximized&p_p_col_id=column-2&p_p_col_pos=1&p_p_col_count=2&_169_struts_action=%2Fdynamic_data_list_display%2Fview_record&_169_recordId=628370&_169_redirect=http%3A%2F%2Fwww.eba.europa.eu%2Fregulation-and-policy%2Fconsumer-protection-and-financial-innovation%2Fdraft-regulatory-technical-standards-rts-on-professional-indemnity-insurance-pii-for-mortgage-credit-intermediaries%2F-%2Fregulatory-activity%2Fconsultation-paper*

4. Conclusions

Despite many years of work to integrate the mortgage lending market in the EU, it does not seem that the Mortgage Credit Directive has contributed significantly to the creation of an internal market for mortgage credit or has led to a significant increase in the degree of protection for consumers taking housing loans. The Directive is largely an extensive collection of good practices but does not contain enough concrete recommendations which could actually eliminate adverse market practices. On the other hand, implementation of the directive requirements will be quite costly from the point of view of the credit sector, and in the case of smaller operators active in the financial intermediation sector, may lead to their elimination from the market.

Without a doubt, the greatest effort for the market will be – at least initially – the need to adapt to new educational requirements; also the necessity to adapt to the changed disclosure requirements will require significant investment. It is not clear, however, whether the new requirements will actually improve the quality of the mortgage credit portfolio in Poland.

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6. Housing markets in Austria, Germany and Switzerland

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Running counter to the sharp rise in house prices and housing wealth observed since the mid-1990s in the vast majority of European countries, real house prices in Germany and Austria were going down in this period and did not start to rise until 2010 or 2007, respectively. This reflects national idiosyncracies in housing markets and motivated the discussion of relevant peculiarities in, and similarities among, Austria and Germany as well as Switzerland. Among the most important structural features that ensured housing market stability in these three countries during the last decade are well-developed rental markets, low homeownership ratios and conservative lending standards. While the tax systems of Germany and Austria do not encourage indebtedness, Swiss taxpayers benefit from taking on a lot of leverage. Recent house price increases in all three countries under review here can be attributed to various crisis-related channels (extremely low interest rates, economic uncertainty, safe-haven effect) as well as to demographic developments, including immigration. The Swiss authorities have already implemented a number of macroprudential measures to safeguard the banking sector.

JEL classification: R31, E32, E44

Keywords: house prices, rental markets, housing finance, taxation

As housing assets account for a considerable part of a country's welfare, wealth and GDP, they significantly shape the long-term development of economies. Housing markets and housing finance have undergone remarkable changes over the past decades in Europe as well as in the United States. In the vast majority of European countries, house prices and housing wealth have risen sharply since the mid-1990s. At the same time, household debt has reached record levels in many countries, largely as a result of the decrease in real and nominal interest rates and the introduction of a wide range of financial innovations on mortgage markets (product diversification, housing equity withdrawal and securitization).

National housing markets differ in many ways. Hence, the various aspects of the respective national housing and mortgage markets must be thoroughly analyzed to find out why housing mar-

kets in Austria, Germany and Switzerland deviated from European trends. This article aims to compare developments in these countries from various angles with a special focus on financial stability.

1 House Price Developments in Austria, Germany and Switzerland – Some Stylized Facts

While some euro area countries (e.g. Greece, Spain) started to experience a pronounced upswing in house prices in the early 2000s and others (Ireland, the Netherlands, Finland) had done so even earlier, in the second half of the 1990s, Germany, Austria and Switzerland deviate substantially from this pattern.

In *Austria*, house prices remained stagnant until 2005, when a marked upward trend emerged that has since resulted in the sharpest property price increases seen in the euro area in recent years. From the first quarter of 2007

through the third quarter of 2014, nominal prices rose by 44%, against the backdrop of a continued stagnation of house prices in the rest of the euro area.

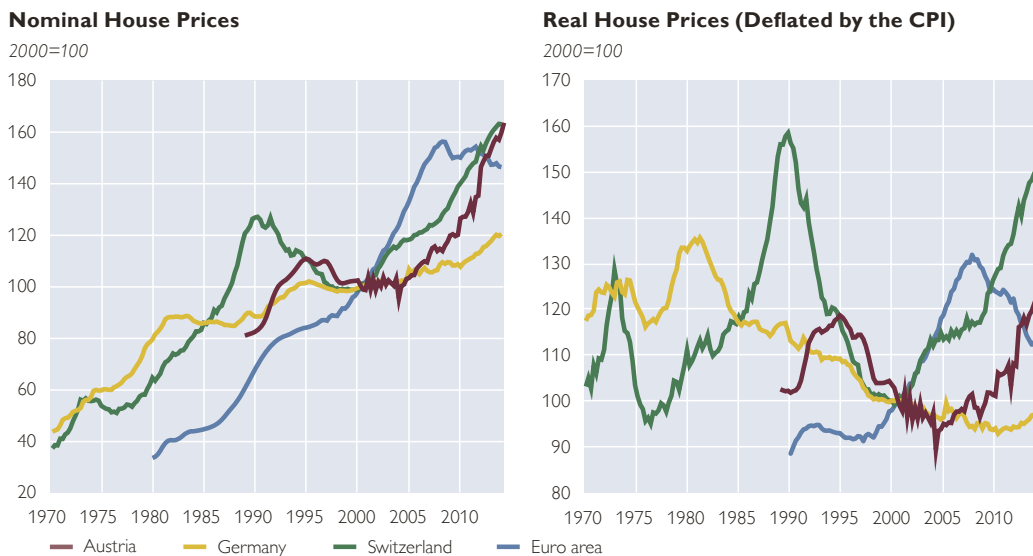
Germany stands out with a 1.3% annual increase in nominal house prices between 1980 and 2013, which in fact implies a net decline in real house prices. This development can be attributed to a variety of factors which are examined in more detail below. The key drivers are a low homeownership ratio due to well-developed rental markets, an oversupply of housing units due to a policy-induced building boom following German reunification, and conservative lending practices by German banks. The recent upswing of the housing market has been largely driven by sound economic growth and the good performance of the German labor market, which supported household income. The slump in Eastern and Southern EU countries triggered a wave of immigration to Germany in recent

years (chart 2, right panel). The financial and economic crisis contributed to price increases due to increased demand for safe assets and extremely low financing costs.

Switzerland experienced a house price bubble in the 1980s that burst in 1990. This bubble was fueled by a substantial increase in the money supply following the launch of the Swiss Interbank Clearing System (Borowiecki, 2009), as more efficient interbank clearing broadened funding opportunities for banks. Mortgage growth was even higher than the growth of real estate prices. Between 1981 and 1992, total mortgages extended by Swiss banks increased by 148%. After the bubble burst, a recession from 1990 to 1993 confronted the Swiss economy with the need for massive restructuring due to increasing globalization. The sharp decline of real estate prices in combination with the macroeconomic slowdown had considerable adverse

Chart 1

Nominal and Real House Prices in the Euro Area versus Austria, Germany¹ and Switzerland

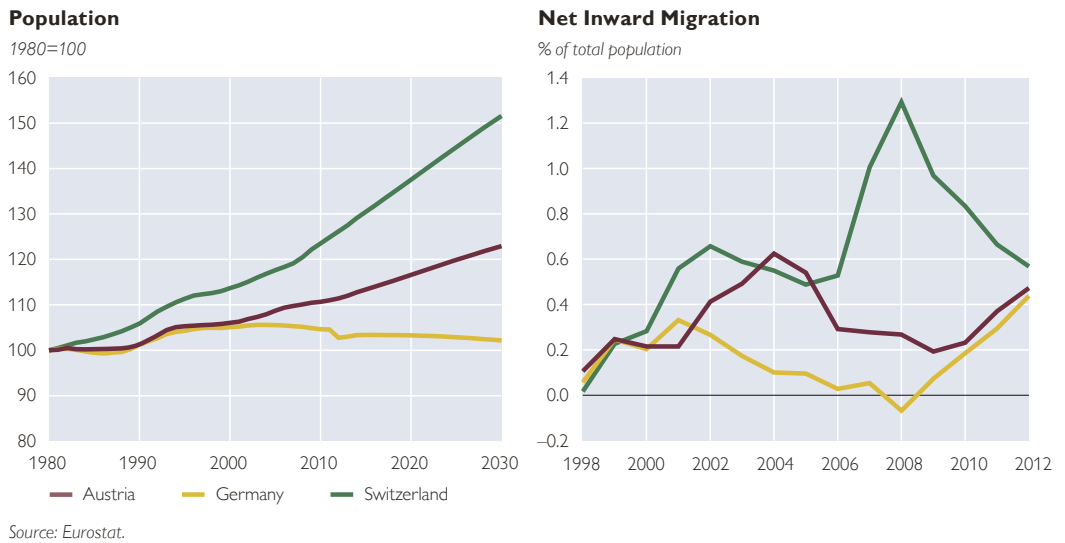


Source: BIS, OeNB, TU-Wien.

¹ The house price series for Germany is subject to multiple breaks (4 Western German cities before 1975, 50 Western German cities until 1991, 125 cities until 2004, all cities and districts since 2004) and must therefore be interpreted with caution.

Chart 2

Demographic Changes in Austria, Germany and Switzerland



effects on Swiss banks. Between 1991 and 1996, they incurred estimated losses of more than 10% of Swiss GDP (BIS, 2004).

The recent upswing in the Austrian and German housing market has also been driven by the global financial situation. Given increased demand for safe assets, the housing market became an investment vehicle of choice for international investors and for domestic households seeking to protect the value of their assets. Furthermore, this tendency has been reinforced by low returns on financial assets. All three countries have benefited from an environment of low interest rates, which moreover reflects their safe-haven sta-

tus. Interest rates for mortgage loans have, thus, been on the decline since the end of 2008.

Whilst nominal house prices (chart 1, left panel) were rising for most of the time in Austria, Germany and Switzerland, real house prices (chart 1, right panel) in fact diverged between the countries. Given the impact of demographic and economic developments (see chart 2 and table 1) on house prices, the fact that house prices have been rising more strongly in Switzerland than in Austria and Germany may be related to the fact that the population, including net inward migration, and real disposable income grew most strongly in Switzerland, too.

Table 1

Economic Developments in Austria, Germany and Switzerland

		Austria	Germany	Switzerland
		%		
Population growth	1995–2012	5.8	-1.5	13.3
Real per capita growth of disposable income	1995–2012	12.7	10.7	28.1
Real GDP growth	1995–2013	40.5	25.5	35.1
Real interest rate for mortgages	2010–2013	0.2	1.5	1.1

Source: Eurostat, ECB, SNB.

2 The Relationship between House Prices and Fundamentals

Are the house price increases outlined above justified by fundamentals? To assess price developments, the OeNB has developed a Fundamentals Indicator for Residential Property Prices (Schneider, 2013). This indicator is calculated on the basis of seven subindicators that monitor a variety of data related to households, investors and systemic factors. To capture the perspective of households, two subindicators have been included to represent different affordability aspects of homeownership. With a view to including the investor perspective, two indicators have been included to reflect the profitability of real estate investments. Another three subindicators are meant to capture the systemic perspective by mapping the relationship between the residential property market, macroeconomics and financial stability.

This indicator shows that residential property prices in *Austria* were in line with fundamentals in Q3/14, apart from a likely overvaluation of 20% for

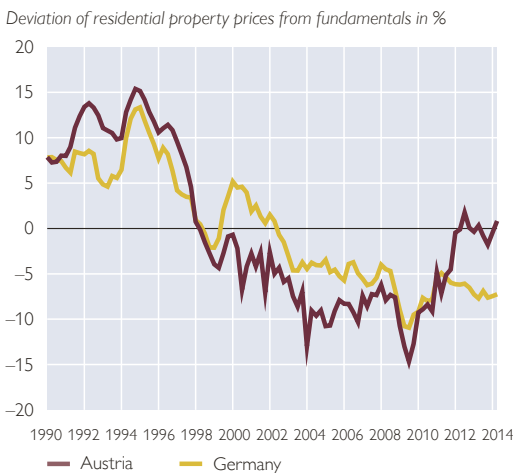
Vienna. Calculating this indicator with data for *Germany*, we see an undervaluation of 7% in Q3/14. In October 2013, the Deutsche Bundesbank analyzed house price developments based on regional data for residential property prices as well as demographic and macroeconomic factors. The results show that from a macroeconomic perspective, house prices are in line with their fundamental determinants – again with the exception of properties in urban areas, which are likely to be overvalued by between 5% and 10%. In major attractive cities, this overvaluation can amount to up to 20% (Deutsche Bundesbank, 2013).

Since we do not have the proper time series to calculate the indicator for *Switzerland*, we looked at the UBS Swiss Real Estate Bubble Index (UBS, 2014), whose structure is similar to that of the OeNB’s Fundamentals Indicator for Residential Property Prices. The main difference is the presentation of the results. While the OeNB indicator shows the deviation of residential property prices from fundamentally justi-

Chart 3

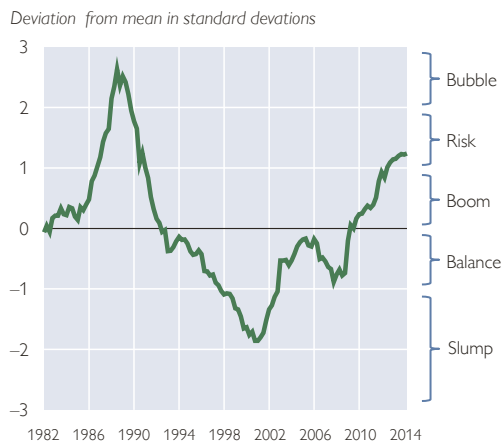
Residential Property Misalignment Indicators

Residential Property Misalignment Indicators for Austria and Germany



Source: OeNB calculations.

UBS Swiss Real Estate Bubble Index



Source: UBS.

fied prices in percent, the UBS indicator presents the deviation in standard deviations. The results show that prices are clearly above their fundamentals, although the increase of the deviation seems to be slowing down.

3 Differences in Housing Market Policies and Structures

Low Homeownership Ratios and Well-Developed Rental Markets Dominate

In an international perspective, all three countries under review here have very low ownership ratios. Within the EU, Austria (58%¹) and Germany (53%²) have the lowest ownership ratios (table 2), far below the EU-28 average of 71% (2012). The low ratios are essentially the consequence of well-developed rental markets,³ on top of a well-developed social housing sector in *Austria* and *Germany*. Furthermore, subsidies for homeowners are not as high in Austria and Germany as in countries like Spain or the Netherlands. The fact that Germany has a lower ownership ratio than Austria may reflect the higher degree of regional mobility observed in Germany.

In terms of housing policies, the main objective of *Austria* is to provide affordable housing of high quality. Homeownership is not defined as an explicit target. The Austrian housing model rests on five pillars: (1) housing subsidies, (2) the legal framework consisting of private law, building regulations and property development regula-

tions, (3) limited-profit developers of affordable housing (“gemeinnützige Bauvereinigungen”), (4) building and loan associations (“Bausparkassen”) and home loan banks (“Wohnbaubanken”), as well as (5) other financial intermediaries, including property investment funds.

Austrian legislation on residential tenancy is characterized by a high degree of complexity: different provisions apply depending on the date when a building was erected or when the lease was signed, or depending on the type of subsidies granted. In general, residential tenancy law provides a fairly high level of protection for tenants. Moreover, the share of social rents is quite high in international comparison, in a market with a high share of rented housing: 20% of tenants live in public housing apartments (“Gemeindewohnung”), 40% in homes erected by limited-profit developers of affordable housing, and just 40% of the tenants rent from private landlords. Under this environment, the expected return of renting is quite low for private investors. Thus, both the high share of social rents and the high share of regulated rents seem to have dampening effects on rental and property prices.

Activity in the *German* housing market was dominated to a larger extent by the construction of social housing than in most other euro area countries after World War II, given the magnitude of the destruction experienced. A well-functioning system of social housing

¹ The share of owners also includes relatives (on the assumption that they reside in additional homes of the owner). The share of owners without relatives is 51%.

² The ratio of 53% relates to the share of persons living in owner-occupied homes. Based on the corresponding share of households, this ratio drops to 43%.

³ The size and structure of the rental market has an important impact on the level and volatility of residential property prices. In countries with well-developed rental markets, households can wait and save money for down-payments. In countries without well-developed rental markets like the United Kingdom, households face problems in finding rental homes, so that even young and low-income households apply for mortgages. This may foster the development of subprime markets.

was built up with both public and private funds. Important pillars of the German housing policy besides social housing are the promotion of homeownership, direct subsidization of lower-income households and market-oriented rents within the freely financed rental housing sector (Cornelius and Rzeznik, 2014). Housing policy has historically been sensitive to the rights of tenants. However, liberalizations of the rent system have led to a more balanced approach.

In *Switzerland*, homeownership is an explicit target of housing policy. Under the Swiss Federal Constitution, housing policy is meant to encourage the ownership of apartments and houses for own use. An important element is the possibility of early withdrawals of pension fund assets of pillar 2 and 3a for homeownership. In practice, the Swiss authorities have maintained a more ambivalent attitude, resulting in a homeownership rate of just 37% in Switzerland. Among other things, this low rate reflects the fact that, on a country-wide basis, housing unit purchases (“Stockwerkeigentum”) have been possible only

since 1965 (Wehrmüller, 2014). Moreover, the high costs of housing due to the scarcity of land and a large foreign-born (often transient) population add to the huge size of the rental sector. Last but not least, rental housing is eligible for subsidies at the federal and cantonal level.

Having examined the determinants of homeownership rates in Europe, especially the role of the state, Springler and Wagner (2009) show that tax incentives have a significant positive impact on homeownership rates. As interest rates have an inverse impact on homeownership rates, they conclude that the liberalization of European mortgage markets and the ongoing innovations in the field of housing finance have a positive impact on homeownership rates.

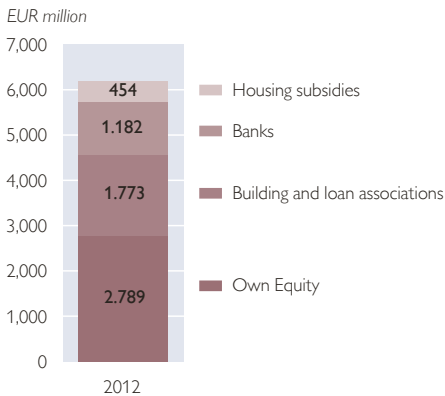
Housing Subsidization and Rental Market Regulation

Housing subsidization and rental market regulation are closely interlinked in many countries, with subsidized segments of the rental market being subject to a higher degree of regulation.

Chart 4

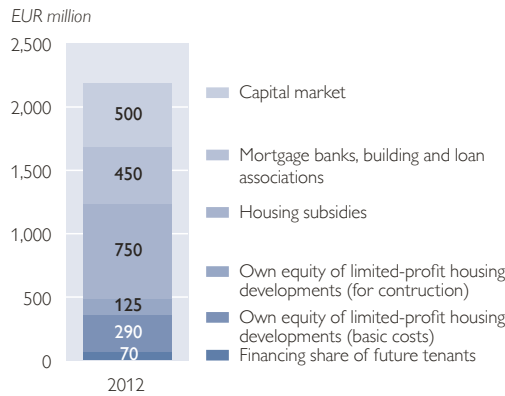
The Role of Subsidies in Housing Finance in Austria

Private Housing Construction 2012: Approximately 22,400 Housing Units



Source: Arbeitsforum Bausparkassen.

Large-Volume Housing Construction 2012: Approximately 14,000 Housing Units



Source: Arbeitsforum Bausparkassen.

In *Austria*, different types of housing subsidization play a major role in supporting both large-volume construction and the building of private homes. For instance, in 2012, building and loan associations financed almost one-third of the money spent on private housing (approximately EUR 6,200 million). Housing subsidies accounted for EUR 454 million or some 7% thereof. In supporting large-volume housing construction, housing subsidies played an even more significant role, contributing EUR 750 million or 34% of total financing.

The predominant instruments are object-related subsidies; less important instruments include subject-related subsidies, tax incentives and capital market instruments. As outlined above, rental markets are highly regulated, and provisions and the degree of regulation may vary a lot. For instance, rents are quite low for buildings erected before World War II, and the regulation schemes differ depending on whether the rental agreement was concluded before or after 1994. Rental

agreements may be of limited or unlimited duration, and they are subject to different rules for termination by the landlord or for rent increases. Landlords wishing to benefit from subsidies are subject to certain restrictions. While freely financed private housing units can be rented out at market prices, the share of freely financed housing in Austria is very small. Regarding the relative size of the sectors, social rental agreements dominate in Austria, whereas the private rental sector dominates in Germany and Switzerland.

In *Germany*, both object-oriented and subject-oriented subsidies play a role. The two main instruments of housing policy are supply-side social housing subsidies and direct housing allowances (“Wohngeld”). Landlords wishing to benefit from social housing subsidies are subject to certain restrictions (rent ceilings and occupancy control agreements). However, these restrictions apply only for a limited period of time. After that, the house becomes part of the privately financed

Table 2

Housing Market Structure

	Austria	Germany	Switzerland
Housing market structure	Low homeownership ratio (58%) ¹	Low homeownership ratio (53%) ²	Very low homeownership ratio (37%)
Dominant rental market	Social rental market (60%)	Private rental market	Private rental market
Main housing subsidy instruments	Object-oriented subsidies dominate, but subject-oriented subsidies also play some role	Social housing subsidy Direct housing allowance	Object-oriented subsidies dominate, minor role of subject-oriented subsidies
Duration of rental agreements	Limited or unlimited	Usually unlimited	Usually limited (most contracts, though technically of limited duration, roll over automatically. Notice to terminate tenancy requires material cause, but this is interpreted quite generously in Switzerland)
Duration of restrictions/ duties for landlords	Unlimited	Limited	Limited

Source: Authors' compilation.

¹ The share of owners also includes relatives (on the assumption that they reside in additional homes owned by the owner). The share of owners without relatives is 51%.

² The ratio of 53% relates to the share of persons living in owner-occupied homes. Based on the corresponding share of households, this ratio drops to 43%.

sector, implying that rents can be raised to normal market levels and the property can be re-rented without further restrictions (Kirchner, 2005). Rental agreements in Germany are usually unlimited in duration, with some exceptions (tenancies can be terminated, subject to adequate proof, for the landlord's own use or in case landlords intend to change or repair the dwelling substantially). Rental regulation regarding the initial rent and future rent increases depends on the type of the rental agreement. A system of rent control applies to public dwellings and for private dwellings that were built using public funds. The rent depends on the age of the dwelling (built before 2001 or thereafter). Currently, no restrictions apply to rents under new agreements concluded in the private rental market. However, increases of rents in existing agreements are subject to a cap. Recently, the government coalition proposed plans to set a limit also for rents under new agreements, except for those applying to newly built dwellings, in areas with especially tight housing markets.

Switzerland's federal structure accounts for a more fragmented housing subsidization system than in other countries, making a direct comparison difficult. Housing subsidies are granted by the federal government as well as various cantons and municipalities. Object-oriented subsidies dominate. If a loan is granted to an investor, rents have to be set at a value below that of market rents for 15 years. Some cantons have well-developed subsidy schemes, where tenants have to satisfy income requirements to occupy a subsidized apartment. Subject-related subsidies (rental aid) are far less developed than in Austria and Germany and are available in a fraction of the cantons only (Bourassa et al., 2010). In Switzer-

land, an increase in interest rates on mortgage loans can be partially rolled over to tenants, as an average mortgage-rate index based on the costs of all banks' mortgage loans was introduced in September 2008 as the reference rate for rental-payment adjustments. Rental market regulation is high, as is tenant protection. However, rental agreements are usually limited in duration. Initial rents can be agreed freely, but can be adjusted only if operating and maintenance costs or interest rates increase. Tenants have the right to challenge the initial rent or rent increases during the tenancy. They also have the right to request a rent reduction if they have good cause to suppose that the landlord makes excessive profits on the premises because of significant changes to the calculation basis (Wehrmüller, 2014).

4 Differences in Housing Taxation Schemes

The housing tax system has far-reaching implications for real estate markets. The relevant elements are the deductibility of mortgage interest payments and the taxation of imputed rents, real estate ownership, and real estate transactions.

In Austria, the tax base for real estate tax ("Grundsteuer") is the assessed property value ("Einheitswert") as defined on January 1, 1973, and adjusted since (by a total of 35%, with the latest of only three increases made so far dating back to 1983; Reiss and Köhler-Töglhofer, 2011). The assessed property value is thus clearly below market values, leading to low real estate tax expenses for households. Regarding the taxation of capital gains from the sale of real estate, the existing system was amended in April 2012. Previously, real estate capital gains used to be taxed at the average income tax

rate if the sale occurred within a speculation period (10 years, or 15 years for rented buildings with a depreciation tax shield, subject to exemptions for the main residence and owner-constructed buildings). The new system is no longer linked to a speculation period and provides for taxation at a blanket tax rate of 25%. Some transitional rules apply for property bought before April 2002. Purchases of real estate, finally, are subject to a real estate transfer tax (“Grunderwerbsteuer”) and to various fees (land registry fee, mortgage registration fee). The real estate transfer tax

will change to a staggered system under the newly announced tax reform (to enter into force on January 1, 2016) with a rate of 0.5% for sales prices of up to EUR 250,000; a rate of 2% for amounts ranging from EUR 250,000 to EUR 400,000; and 3.5% (which is currently the default rate) for any higher amounts. At the same time, a new assessment base will be introduced, reflecting the market value rather than the three-fold property value as under current provisions. Moreover, firms will benefit from a tax allowance for real estate transfers of up

Table 3

Tax Treatment of Owner-Occupied Housing

	Austria	Germany	Switzerland
Tax on imputed rents	No	No	Yes (based on imputed income (on average 70% of market rents) minus mortgage interest and other expenses)
Mortgage interest deductibility	No (under certain circumstances and up to a very low cap of EUR 730 a year; building costs including mortgage interest payments may be deducted)	No	Yes
Net wealth tax	Abolished in 1994	Abolished in 1998	Yes (based on fair market value of residential property minus debt)
Real estate tax	Tax levied at a basic federal rate (usually 0.2%) multiplied by a municipal coefficient ranging up to 500%; cadastral value from 1973 with no automatic update	Real estate tax on fiscal value at a federal rate of 0.26% to 0.35% in former Western Germany and 0.5% to 1% in former Eastern Germany, multiplied by a municipal coefficient of 100% to 900%. Cadastral value from 1964 (former Eastern Germany: 1935)	0.03% to 0.4% of the market value or the taxable value of the real estate (in about half of the cantons) Based on 50% to 80% of the market value
Real estate capital gains tax	Not on main residence and owner-constructed buildings Yes on other real estate: Capital gains are taxed at 25%. Prior to April 2012: Other real estate was taxed only if sold within a speculative period (10 years; 15 years for rented buildings with a depreciation tax shield)	Yes, for sale within the speculative period (10 years)	Special cantonal real estate tax or ordinary corporate income tax (depending on the canton)
Real estate transfer tax and registration fees	3.5% of sales price (2% for relatives) Land registry fee 1.1% to 2.3% Mortgage registration fee 1.2%	3.5% to 5% of sales price, depending on the state Land registry fee 0.15% to 0.2%. Notary fees about 0.3% to 0.8% Mortgage registration fee about 0.3%	1% to 3% of sales prices (proportional) in all but two cantons

Source: European Commission (2012), authors' compilation.

to EUR 900,000 as well as a staggered corporate system: a rate of 0.5% for amounts of up to EUR 1.1 million; a rate 2% for amounts of up to EUR 1.3 million; and a rate of 3.5% for higher amounts. Farmers will be exempt from real estate transfer tax under the new regulation.⁴

The structure of real estate taxation in *Germany* is similar to that of Austria. The assessed property values are even older than in Austria (1973 for former Western Germany and 1935 for former Eastern Germany). The German tax system favors long-term investment in real estate, since gains realized from property resale within 10 years are subject to income tax. Moreover, speculation is dampened by high transaction costs (real estate transfer tax and high fees to register the transfer of ownership and for the required notary services). Between 1991 and 1998, investors were given a tax break to stimulate residential construction in former Eastern Germany.

Swiss homeowners have to pay income tax on imputed rental income (net of interest payments, maintenance, insurance premiums, administrative costs for third parties, repair costs, etc.) for own-use homes.⁵ The tax authorities estimate the imputed rent, which on average amounts to 70% of the potential market rent. Tax rates differ among cantons. In most cantons, homeowners can choose between the deduction of the actual costs and a lump sum deduction, which typically ranges from 10% to 30% of imputed rent. The deductibility of mortgage interest payments explains the predominance of interest-only mortgages in Switzerland.

For wealth tax (which has been abolished in Austria and Germany), the tax base is net wealth, i.e. fair market value minus documented debt. Real estate is on average taxed at 70% of the fair market value of the property. This tax value of the property is assessed by the tax authorities. In addition, some cantons levy a real estate tax. The tax is assessed on the basis of the market value of the property, without allowing for the deduction of debts. Capital gains from selling real estate are subject to a real estate capital gains tax (“Grundstücksgewinnsteuer”), which is levied at the cantonal level. The tax rate depends on the holding period and the amount of profit. To prevent speculation, the tax rate is prohibitively high for short holding periods. However, this tax is waived if the profit is used to buy another property for the same or a higher amount within two years. In most cantons, the purchase of real estate is also subject to a real estate transfer tax ranging from 1% to 3% of purchase price or the taxable value of the real estate. In general, the decentralized tax system in Switzerland contributes to huge disparities of residential property prices.

Implications of the Tax Systems

The effects of mortgage deductibility can be seen in *Switzerland*, where mortgage payments can be deducted when calculating imputed rent. The volume of outstanding mortgage loans is three times as high in Switzerland as in Austria and Germany (relative to GDP). Revenues from recurrent real estate taxes are extremely low in Austria (0.6% of GDP in 2012) and

⁴ As announced in March 2015.

⁵ In the European Union, only Luxembourg and Netherlands tax imputed rents on the main dwelling (European Commission, 2012).

Germany (0.9%). In Switzerland, they amount to 2% (OECD Revenue Statistics). High transaction costs stabilize the market in Austria and Germany by fostering long-term investment in real estate and by preventing speculation.

5 Differences in Housing Finance Schemes

National structures of housing finance have important implications for possible risks arising from mortgage debt.

Characteristics of Housing Loans

Several dimensions of housing loans are highly relevant for financial stability. The duration of the interest rate fixation (fixed versus variable rate loans) is important, since variable rate loans

entail higher risks if interest rates increase. Foreign currency loans pose multiple risks (currency risk, interest rate risk, the risk that the saving account does not perform). In countries with financial systems that allow equity extraction, rising house prices can be used to extract additional loans for consumption purposes from the wealth of the house. Some countries have mortgage securitization instruments. In general, there has been a trend toward longer maturities, driven by rising life expectancy and related increases in retirement ages (ECB, 2009). In many countries, maturity lengthening was used to improve affordability as prices went up. The lending practices of banks differ from country to country.

Table 4

Characteristics of Housing Finance

	Austria	Germany	Switzerland
Summary			
Overall financing risk	Low to medium, resulting mainly from interest rate risk and foreign currency loans	Low to medium due to moderate indebtedness and a low share of variable rate loans, but lending standards need to be researched more closely	High due to high indebtedness
Role of foreign currency loans	Very high, but decreasing (from 39% in Q2/07 to 22% in Q4/14)	Low	Almost negligible (< 1%)
Interest-only loans	Yes, for foreign currency loans	No	Yes
Prevailing type of interest rate	Very high share of variable rate loans (87%) ¹	Very low share of variable rate loans (15%)	Medium term fixation
Interest rate for adjusting variable interest rate loans	3-month EURIBOR (LIBOR, swap rate)	EURIBOR or other	CHF-LIBOR
Lending practice of banks	Conservative; was more aggressive in the past	Relatively conservative, but more research is needed	Conservative
Loan-to-value limit	Three-fifths (=60%) of value (for mortgage banks' refinancing) §11 of Mortgage Bank Act	No general loan-to-value limit (60% of mortgage lending value for Pfandbrief refinancing)	Usually up to 80% (65% for interest-only loans)
Equity extraction possible/ mortgage equity withdrawal	No evidence that it plays a role	No evidence that it plays a role	No evidence that it plays a role
Mortgage securitization (mortgage-backed securities/ covered bonds)	Yes	Yes	Yes
Typical maturity of loans for home purchase	25 to 30 years	10 to 15 years	Typically 2 to 10 years with the option to roll over
Household indebtedness	Moderate (55% of GDP)	Moderate (59%)	Very high (124%)

Source: Authors' compilation, ECB (2009).

¹ This is the share of newly issued loans with an initial period of fixation up to 1 year to all newly issued loans.

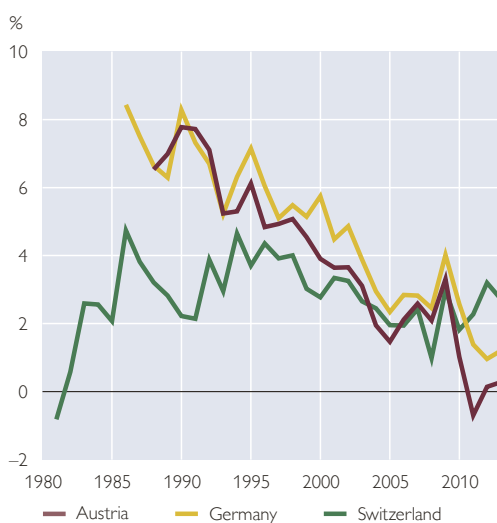
One distinct feature of housing loans in *Austria* used to be the high popularity of foreign currency loans. Foreign currency loans started to become popular in the second half the 1990s, probably mostly due to exchange rate effects. Their share in the total volume of outstanding loans peaked at 39% in the first quarter of 2007. Since then, the foreign currency loan share has fallen continuously to 22.3% (Q4/14). Furthermore, housing loans tend to be variable-rate loans, whose share has steadily increased from 40% in early 2003 to 86.7% in Q4/14 (see chart 4). For more information on foreign currency loans and their distribution among households, see Albacete and Lindner (2015). In Germany, mortgage lending is conservative with long maturities and a high share of fixed-rate loans. Over 70% of newly issued mortgage loans have a fixed rate of more than five years. Currently, there is no sign that lending standards are becoming more relaxed.

In *Switzerland*, mortgage loans are offered by banks, insurance companies and pension funds. The overwhelming majority of mortgages are provided by banks. Swiss mortgage indebtedness is very high by international standards, but so is net wealth. One distinct feature of Swiss mortgages is that prior to 2012, interest-only loans dominated. Self-regulation measures of the Swiss Bankers Association implemented in 2012 and 2014 define compulsory amortization (see next section). Mortgages in Switzerland typically have a maturity of between 2 and 10 years with the option to be rolled over. At the current low level of interest rates, longer maturities are becoming increasingly popular. Interest rates can be either variable or fixed. When a mortgage is rolled over, the interest rate of the new loan can increase substantially. The typical duration until full amortization is about 20 to 30 years. The required downpayment currently amounts to 10% of the property's

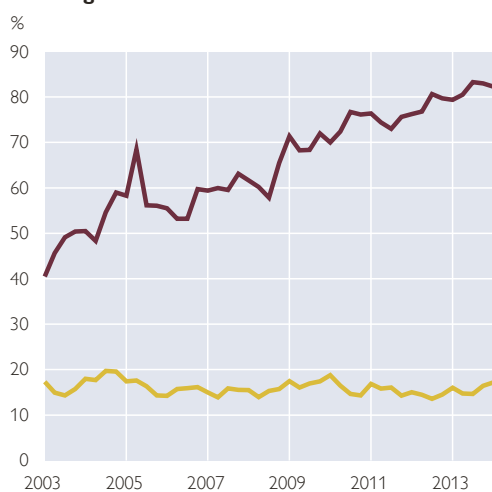
Chart 5

Interest Rates and the Share of Variable Rate Loans

Real Interest Rates for Housing Loans



Share of Variable Rate Loans in Total New Housing Loans



Source: ECB, Thomson Financial, IMF.

value. Pension fund assets were allowed for the downpayment until 2012. An important element of housing finance in Switzerland is the possibility of early withdrawal of funds accrued under the occupational pension scheme (second pillar) and the private pension scheme (third pillar) for the purchase or construction of owner-occupied residential property (Wehrmüller, 2014).

Mortgage Debt and Household Net Wealth

In terms of households' total assets and liabilities, there is a striking difference between Austria and Germany on the one hand, where the volume and structure of assets and liabilities is very similar, and Switzerland on the other (table 5). In Austria and Germany, real estate assets amount to more than 50% of total assets, whereas in Switzerland, financial assets are more important than real estate assets. Even so, Swiss households (279%) clearly outperform Austrian (213%) and German (209%) households when we compare the relative magnitude of households' real estate assets (expressed as percentages of

GDP). The volume of outstanding mortgage loans is low in Austria measured in terms of GDP (36.5%) as well as in percent of the value of real estate assets (17%). Switzerland has a very high volume of mortgage loans (116% of GDP). Measured in terms of the value of real estate assets, mortgage loans amount to 42%. Household net wealth is very similar in Austria and Germany (slightly above three times GDP or above EUR 100,000 per capita at purchasing power parity). In Switzerland, household net wealth amounts to five times GDP or EUR 204,000 per capita at purchasing power parity. This difference stems mainly from financial assets.

Sources of Housing Loans and Funding

In most European countries, banks are the key sources of mortgage loans, followed by insurance companies and pension funds. In Austria and Germany, saving banks and cooperatives play an important role. In Austria, (subsidized) housing loans are also provided by the provinces.

Table 5

Household Assets and Liabilities (2012)

	Austria	Germany	Switzerland	Austria	Germany	Switzerland
	% of GDP			EUR per capita at 2012 purchasing power parity		
Total assets	385.2	394.6	632.0	127,952	124,325	253,762
Financial assets	172.5	185.2	352.7	57,297	58,350	141,628
Real estate ¹	212.7	209.4	279.3	70,655	65,975	112,135
Total liabilities	54.9	58.7	124.3	18,235	18,494	49,925
Loans	54.5	58.2	124.1	18,102	18,337	49,824
Mortgage loans ²	36.5	41.3	116.4	12,124	13,006	46,733
Consumer loans	7.2	6.7	2.6	2,384	2,126	1,061
Other loans	10.8	10.2	5.0	3,590	3,205	2,010
Other liabilities	0.4	0.5	0.3	133	158	100
Net wealth	330.3	335.9	507.7	109,716	105,830	203,838

Source: Eurostat, ECB, SNB, HFCS 2010, authors' calculations.

¹ Real estate wealth for Austria and Germany (for 2010) is taken from the Household and Consumption Survey (HFCS) 2010 and extrapolated using house price growth.

² Loans from banks and from other lenders (states or provinces) for Austria and Germany.

Savings plans with building and loan associations are still very popular in Austria, given attractive base interest rates and the government bonus for such saving plans, which serve as an incentive. Furthermore, loans linked to such savings plans are subject to comparably low interest rates apply at the beginning of the maturity period and capped with a rate of 6% interest. In December 2014, the volume of outstanding loans granted by building and loan associations came to EUR 19 billion. The number of savings plans with building and loan associations in Austria totaled 5,288,827 in December 2014 (which is approximately one-eighth of all loans granted by Austrian financial institutions and a share of 62% when measured against the Austrian population).

Refinancing by Banks

Banks in Europe mostly rely on their general funding sources (especially deposits) for housing loans. According to the financial accounts, just EUR 15 billion of the total volume of housing loans of EUR 113 billion in 2013 were government-financed in *Austria*.

However, there are some exceptions. In *Germany*, banks issue long-term covered bonds (“Pfandbriefe”) in line with households’ preferences for a long interest rate fixation. Yet only a small portion of mortgages are used for Pfandbrief coverage. In *Switzerland*, covered bonds doubled from 2004 to 2013, to EUR 72.9 billion. In *Austria*, housing bonds play also a minor role (EUR 11.4 billion in 2012).

6 Macprudential Framework and Policy Measures

National macroprudential supervision in EU countries is embedded in a complex institutional framework at the EU level. In this context, *Austria* estab-

lished the Financial Market Stability Board (FMSB) in 2014, which integrates all relevant national financial stability stakeholders: the Federal Ministry of Finance, the Austrian Fiscal Advisory Council, the Austrian Financial Market Authority (FMA) and the Oesterreichische Nationalbank (OeNB). The FMSB may issue recommendations to the FMA as the competent authority, release warnings on questions of systemic risk and publish its decisions and warnings (Eidenberger et al., 2014).

Before the establishment of the FMSB, the Financial Market Authority had deployed a set of measures to address risks arising from foreign currency loans and loans with repayment vehicles. In October 2003, the FMA published its minimum standards for granting and managing foreign currency loans and loans with repayment vehicles. In October 2008, the FMA enhanced those measures by issuing a recommendation to the banking industry to stop extending foreign currency loans. Subsequently, it further refined this recommendation with a supplement issued in 2010. Finally, new minimum standards for the risk management and granting of foreign currency loans and loans with repayment vehicles entered into force in January 2013. These minimum standards do not constitute a regulation in the legal sense and do not prevent credit institutions from setting higher internal standards.

The *German* equivalent to the Austrian Financial Market Stability Board and hence the lead macroprudential financial supervisor is the Financial Stability Commission (FSC), which was founded in 2013. It consists of representatives of the Federal Ministry of Finance, the Deutsche Bundesbank, the Federal Financial Supervisory Authority and, as a nonvoting member, the Federal Agency for Financial Mar-

Institutional Macroprudential Framework and Policy Measures

	Austria	Germany	Switzerland
Institutional macroprudential framework	Financial Market Stability Board (FMSB, established in 2014) Federal Ministry of Finance Fiscal Advisory Council Financial Market Authority (FMA) Oesterreichische Nationalbank (OeNB)	Financial Stability Commission (FSC, established in 2013) Federal Ministry of Finance Deutsche Bundesbank Federal Financial Supervisory Authority (BaFin) Federal Agency for Financial Market Stabilisation (FMSA)	Informal arrangement based on Memorandums of Understanding Self-regulation regime implemented by the Swiss Bankers Association (SBA) Swiss National Bank (SNB) Swiss Financial Market Supervisory Authority (FINMA) Federal Department of Finance (FDF)
Policy action taken	FMA measures addressing foreign currency loans and loans with repayment vehicles taken in 2003, 2010 and 2013 (recommendations and minimum standards)	Warnings issued by the Deutsche Bundesbank First FSC report published in 2014 No macroprudential measures have been implemented	SBA self-regulation implemented in mid-2012 Countercyclical capital buffer (+1 pp from September 2013; +2 pp from June 2014)

Source: Authors' compilation.

ket Stabilisation. The FSC presented its first annual report in June 2014. Developments in the residential property market are monitored on an ongoing basis.

In October 2013, the Bundesbank published an analysis of house price developments based on regional data for residential property prices and demographic and macroeconomic factors. The results show that from a macroeconomic perspective, house prices are in line with their fundamental determinants. Properties in urban areas, however, are likely to be overvalued by between 5% and 10%. In major attractive cities, this overvaluation can amount to up to 20% (Deutsche Bundesbank, 2013). No official policy measures have been introduced in Germany yet.

In *Switzerland*, no single authority has an explicit macroprudential mandate. Instead, the responsibilities are shared between three institutions. The Swiss National Bank (SNB) and the Financial Market Supervisory Authority (FINMA) are responsible for financial stability. The SNB analyzes risks to the banking sector, including the monitoring of real estate and mortgage mar-

kets. The focus of FINMA's analysis is mostly on individual institutions. In addition, the Federal Department of Finance has significant power in implementing financial regulations. The Swiss arrangement is fairly informal, since it is based on Memorandums of Understanding between the participants rather than being stipulated by law (IMF, 2014).

An important element of the Swiss macroprudential framework is the self-regulation regime implemented by the Swiss Bankers Association (SBA). It entered into force in July 2012 and includes minimum requirements for downpayments by borrowers as well as a definition of compulsory amortization. Borrowers are required to supply at least 10% of the lending value of the property from their own funds, excluding pension fund assets. Mortgages must be paid down to two-thirds of the lending value within a maximum of 20 years. In June 2014, the SBA adjusted its self-regulation regime, shortening the amortization period from 20 to 15 years, and tightening rules for risk weighing mortgages.

Acting on an official SNB proposal, the Swiss Federal Council introduced a countercyclical capital buffer (CCB) framework in July 2012. Accordingly, banks can be required to hold additional capital of up to 2.5% of their total risk-weighted assets in Switzerland. The CCB was activated in two steps: In February 2013, the Federal Council decided to set the CCB at a level 1% of from September 2013; in January 2014, the CCB was increased from 1% to 2%, to take effect from June 2014.

7 Summary

Comparing housing markets in Austria, Germany and Switzerland along various dimensions, we found house prices in these three countries to have developed quite differently compared with many European countries that experienced a pronounced cycle. In recent years, price increases accelerated, mainly driven by various crisis-related

channels (extremely low interest rates, flight into real assets, safe-haven effect) and increasing immigration. Despite the recent price increases, house prices are in line with fundamentals in Austria and slightly undervalued in Germany. In Switzerland, prices seem to be overvalued.

This study has identified important key elements that contribute to stable housing and mortgage markets. A well-developed and regulated rental sector is an important factor that helps keep house prices stable. The taxation system can have an important impact on house prices and household indebtedness. Especially the tax deductibility of mortgage interest expenses can create incentives for high household debt.

While all three countries have established macroprudential frameworks, Switzerland has already implemented macroprudential policy measures to combat credit expansion.

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7. Youth employment and empowerment

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Abstract

Over the last fifty years the topic youth within the System of the United Nations gained considerable importance. A key aspect under the topic youth is global concern of youth unemployment which needs to be addressed efficiently and sustainably. The first chapter of this paper documents the various normative initiatives on youth (un) employment particularly within the UN system. The second chapter takes a close look at the dual vocational education and training system (DVETS) as it has evolved in Germany and tries to identify the opportunities for exporting the system to other countries.

Normative milestones and justification

1.1 Global youth policy milestones within the United Nations

Nearly fifty years ago, in 1965, the General Assembly of the United Nations officially recognized¹ young people as a global stakeholder target group to anchor the “Ideal of Peace, Mutual Respect and Understanding between Peoples”. The important part being played by young people in every field of human endeavor and the fact that they are destined to guide the fortunes of mankind explicitly was underlined by United Nations Member States. In accordance to this, the UN system as a whole as well as selected UN bodies agreed upon strategies to proactively establish channels of communication between the United Nations and youth and youth organizations.² Young people all over the globe were just about to get a much stronger voice within the United Nations than ever before. In addition to this, strong efforts were taken by the UN for securing the implementation and the enjoyment by youth of human rights, particularly the right to education and to work.³

In 1985, the United Nations General Assembly for the first time ever declared the >International Year of Youth – Participation, Development, Peace<⁴ in which the issues of youth employment, education and empowerment were highlighted. The mentioned aspects were brought into focus in the year 1996, after United Nations General Assembly announced the >World Programme of Action for Youth to the Year 2000 and Beyond<.⁵ The world programme’s programmatic annex – being integral part of this resolution – outlined education and employment for young people as the two most important issues out of ten. In order to face this challenge, the High-level Panel of United Nations Youth Employment Network (United Nations, World Bank, International Labor Organization) in 2001 formulated recommendations to establish Partnerships for Youth Employment⁶: “Extend outreach and mobilize networks to promote youth employment locally, nationally and internationally, by ... encouraging public, private and civil society partners to pool their knowledge and resources to jointly launch innovative youth employment programmes that are sustainable.”⁷ While young people more and more represent the majority of world’s population, their voices, visions and wishes increasingly matter within the United Nations system as a whole. In 2010 the United Nations General Assembly proclaimed the second “International Year of Youth”, subtitled: Dialogue and Mutual Understanding.⁸ In the same year, the “UN Inter-Agency Network on Youth Development” was launched⁹. In 2012 United Nations Secretary-General Ban Ki Moon announced his “Five-Year Action Agenda related to Youth” in which it is stated: “Address the needs of the largest generation of young people the world has ever known by deepening the youth focus of existing programs on

¹ UN General Assembly (GA), 20th session, Agenda item 66, Resolution A/RES/20/2037, December 7th, 1965

² UN GA, Resolution 31/131 and 31/132, Dec. 1976 – ECOSOC Resolution 2078(LXII), May 1977

³ Resolution 37/49, 90th plenary meeting, Dec. 1982

⁴ UN GA, Resolution 40/14, fortieth session, agenda item 89, Nov. 1985

⁵ UN GA, Resolution 50/81, fiftieth session, agenda item 105, Mar. 1996

⁶ UN GA, fifty-sixth session, agenda item 29, document A/756/422, Sept. 2001

⁷ UN GA document A/756/422, recommendation 10: „Partnership for Youth Employment“, page 15

⁸ UN GA, Resolution 64/134, sixty-fourth session, agenda item 61(b), Feb. 2010

⁹ <http://social.un.org/youthyear/unianynd.html>

employment, entrepreneurship, political inclusion, citizenship and protection of rights, and education, including on reproductive health.” Furthermore: “To help advance this agenda, the UN system will develop and implement an action plan, create a youth volunteer programme under the umbrella of the UN Volunteers and appoint a new Special Adviser for Youth.” Recognizing this, the “System-wide Action Plan on Youth” (Youth SWAP, 2012) was launched and Mr. Ahmad Alhendawi was appointed as United Nations first Secretary-General’s Envoy on Youth (2013).¹⁰ The latter’s outstanding work is guided by the “World Programme of Action for Youth”¹¹ and is based on the following four priority areas: Participation, Advocacy, Partnership and Harmonization. One of Mr. Alhendawi’s major issues is to implement the voice of youth into the post2015 development process.

1.2 UN-Habitat Youth Goodwill Envoy: Initial Activities in Germany

In April 2011, during the 23rd UN-Habitat Governing Council, Member States adopted a resolution which made four well-known artists to UN-Habitat Youth Goodwill Envoys. Among these envoys one is author of this article. On 11. August 2011, Wolfgang E. Riegelsberger, in his capacity as UN-Habitat Youth Goodwill Envoy, organized a meeting with Hans-Joachim Wolff (CEO DVPT) and Dr. Günter Otto Karl, at that time still with UN-Habitat, in charge of the Civil Society, Parliamentarians, Private Sector and Youth Branch. The meeting was held in Darmstadt, Germany and the topics of discussion dealt with issues of youth empowerment, urban youth employment and communication technology. It became very clear during the discussion that the youth is really embracing new information and communication technology and through the strong emergence of social media, the youth has also become a political key factor in many countries. The meeting resulted in a joint one-pager draft project document entitled: “Youth empowerment and urban development”. This paper provided the basis for a seven pager project proposal with the title: “World Youth Exchange for Employment and Employability”.

The afore-mentioned substantive work resulted in a “Launch of a New United Nations Initiative for Youth Employment and Empowerment”, in the City Hall of Frankfurt, Germany, on 27 October 2011.

1.3 UN-Habitat Youth Programme and State of the Urban Youth Reports

Since 2005/2006 UN-Habitat, through strong financial support from the Norwegian Government, executed a comprehensive and impressive global youth programme which was unique in its content and financial capacity within the UN system. The declaration of International Year of Youth by the UN in 2010 encouraged UN-Habitat’s Youth Programme further more to advance their global efforts on youth, giving particular emphasis to pursue operational projects. These projects are in the area of establishing city-level One Stop Centres World Urban Youth Assembly and Youth Advisory Board as well as the running of an annual

¹⁰ <http://www.un.org/youthenvoy/wp-content/uploads/2013/07/workplan-july-2013.pdf>

¹¹ UN GA, ECOSOC – A/66/61-E/2011/3, sixty-sixth session, recalling November 2010

global Urban Youth Fund. The following State of Urban Youth Reports are further evidence of UN-Habitat' outstanding youth programme within the UN system.

Earlier on, in 2010, UN-Habitat prepared and published its first State of Urban Youth 2010-2011 report with the subtitle "Leveling the playing field"¹². This report focused on the shortcomings and obstacles of youth education and was presented at the World Urban Forum in Rio de Janeiro in 2010. This report clearly revealed that the overwhelming problem of youth was to find their first job after completion of education. There was a pronounced mismatch between the qualification resulting from school education and the skills required for the (first) job. UN-Habitat decided to devote its next State of the Urban Youth 2012-2013 report precisely to this crucial theme.

The State of the Urban Youth 2012-2013 report had the subtitle: "Youth in the Prosperity of Cities"¹³ and was released by UN-Habitat in May 2012. A power point presentation was made by the main author, Professor Oyebanji Oyeyinka in 2012 at the sixth World Urban Forum in Naples, Italy. The Foreword of the Executive Director of UN-Habitat summarizes well the main result of the report: "This one provides further evidence of the fundamental importance of job oriented education to the development of urban youth....This report recommends a better match between skills and labor markets through vocational training and with the participation of the private sector"¹⁴. The report contains four central recommendations (No. 3,6,11 and 13) which strongly propose vocational education and training as key policy action. As mentioned already above, the structural youth unemployment is seen as a mismatch between labor supply and demand in terms of necessary skill-sets. The second important policy area is the involvement of the private sector which is documented in recommendations 3,5,11 and 14. The private sector, however, is directly contributing to the recommendations on vocational education and training because the skill curricula are normally developed with a strong participation of the private sector. Furthermore, the actual apprenticeships (vocational education and training jobs) are of course provided by the private sector.

1.4 United Nations Conference on Sustainable Development

The United Nations Conference on Sustainable Development was held in Rio de Janeiro from 20-22 June 2012. The global UN Conference was also labeled Rio +20 and it resulted in a well-recognized outcome document entitled "The Future We Want"¹⁵. Although this document was at times criticized for not being very original and ambitious because a lot of its text was already negotiated international language. Nevertheless, the outcome document can be considered as a good international diplomatic product. It covers a wide range of international issues and anchors the green economy within sustainable development.

With respect to the global concern of youth unemployment, the document is definitely very forthcoming, providing a wide coverage and to-the-point policy recommendations. In the

¹² UN-Habitat (2010) State of Urban Youth 2010-2011, Leveling the playing field, Nairobi

¹³ UN-Habitat (2012) State of Urban Youth 2012-2013, Youth in the Prosperity of Cities, Nairobi

¹⁴ Op. cit., p. 1

¹⁵ United Nations (2012) United Nations Conference on Sustainable Development, The Future We Want, New York

following, the “Future We Want” document will be analyzed with regards to its content and recommendations for the promotion of youth employment and youth empowerment. There are four key paragraphs on youth (un) employment and three paragraphs on youth participation and empowerment. At the outset is paragraph 24 which reads as follows : “ We express deep concern about the continuing high levels of unemployment and underemployment, particularly among young people, and note the need for sustainable development strategies to proactively address youth employment at all levels. In this regard, we recognize the need for a global strategy on youth and employment building on the work of the International Labour Organization (ILO).”¹⁶

Paragraph 62 provides the context to the green economy by emphasizing the drive to “sustained, inclusive and equitable economic growth and job creation, particularly for women, youth and the poor”¹⁷. Under the sub-header “Promoting full and productive employment, decent work for all, and social protection”¹⁸, paragraph 148 is very clear on the global challenge of youth employment: ”We are concerned about labor market conditions and widespread deficits of available decent work, especially for young women and men. We urge all governments to address the global challenge of youth employment by developing and implementing strategies and policies that provide young people everywhere access to decent and productive work, as over the coming decades, decent jobs will need to be created to be able to ensure sustainable and inclusive development and reduce poverty”¹⁹.

The short paragraph 155 reiterates the youth unemployment point by encouraging the sharing of experiences and best practices on that subject. Paragraph 152 points into the direction of vocational education and training by referring to youth gaining access to needed skills and employment opportunities, including in new emerging sectors. Paragraph 65 on the power of communication technologies does not connect that technology with the youth which is a genuine shortcoming of the document.

Finally, the afore-mentioned 3 paragraphs on youth participation and empowerment are number 31, 43 and 50. The latter reads as follows: “We stress the importance of the active participation of young people in decision making processes as the issues we are addressing have a deep impact on present and future generations, and as the contribution of children and youth is vital to the achievement of sustainable development. We also recognize the need to promote intergenerational dialogue and solidarity by recognizing their views.”²⁰ The paragraphs on participation emphasize that sustainable development must be inclusive and people-centered, benefitting and involving all people, including youth and children and paragraph 43 states that “sustainable development requires the meaningful involvement and active participation of regional, national and sub-national legislatures and judiciaries, and all Major Groups: women, children and youth, indigenous peoples, non-governmental organizations, local authorities”²¹.

The fore-going is a convincing documentation that the United Nations Conference on Sustainable Development is a genuine milestone in bringing the global problem of youth employment to the attention of the world.

¹⁶ Op. cit., p.4

¹⁷ Op. cit. p. 10

¹⁸ Op. cit. p. 26

¹⁹ Op. cit. p. 26

²⁰ Op. cit. P. 8

²¹ Op. cit. p. 7

1.5 Asia Pacific Ministerial Conference on Housing and Urban Development (APMCHUD)

The 4th Bureau meeting of APMCHUD was held on 5th April 2012 in Amman. The meeting unanimously approved the theme Youth and ICT in Sustainable Urban Development for the fourth APMCHUD, which was held in Amman, H.K. Jordan from 10-12 December 2012.

The concept paper issued by the Fourth APMCHUD makes explicit reference to the Arab Spring as being a pertinent motivation for choosing that theme. “The Arab - Spring has demonstrated that governments which ignore urban youth unemployment and underestimate the power of ICT (especially social media) can easily be thrown out of power. Member States of APMCHUD are aware of this political phenomenon and where therefore disposed to adopting the theme of APMCHUD 2012....”²²

The concept paper also refers to a background/theme paper which commissioned by APMCHUD. In its section on specific recommendations, the theme paper states: “ More specifically any plan of action for the region should include: - Establishment of a national vocational education and training system which takes into account the recent developments in IT; - Establishment of national private sector incentives for hiring apprentices and creation of jobs for youth in IT-related fields.”²³

The political outcome of the fourth APMCHUD is captured in the Amman Declaration adopted by all Ministers of the region. The last preambular and first operative paragraph of the Declaration reads as follows: “ Appreciating the opportunities we have as Ministers responsible for Housing and Urban Development and acknowledging the gravity of the youth challenge as well as the potential of ICT in accelerating sustainable urban development in the region decide:

“ 1. Develop National Urban Policies where they do not exist and review the existing ones in order to promote youth participation in decision making, volunteerism, skills development, employment creation and entrepreneurship development;”²⁴

The Amman Implementation Plan provides in a preamble two meaningful paragraphs, namely “ To recognize that youth through the ICT are the future and important stakeholders in development of national policies and strategies.... They should be participants in the planning and management process and given the right space and voice to enhance their confidence and sense of ownership.”

In the following section of the Amman Implementation Plan, the Ministers commit themselves among other things to “ 2. Enhance the national vocational education and training hire apprentices, interns and create jobs for youth especially in the ICT sector. 4. Allocate dedicated financial resources specifically targeted to youth-led ICT initiatives such a national youth funds.”²⁵

The results of the Fourth APMCHUD had direct influence into the drafting of the 24th UN-Habitat Governing Council resolution on youth and sustainable urban development. This becomes evident in the first two operative paragraphs of that resolution: “ 1. Invites the member states to undertake capacity building at the institutional level to harness the potential and the abilities of youth to positively effect change within their countries and communities; 2. Invites

²² Asia- Pacific Ministerial Conference on Housing and Urban Development (2012a) Fourth meeting, Youth and ICT in Sustainable Development, Concept Paper, p. 2

²³ Op. Cit., (2012b) Theme Paper, p.14

²⁴ Op. cit., (2012c) The Amman Declaration, p.3

²⁵ Op. cit. (2012d) Amman Implementation Plan, p.1

member states to develop National Urban Policies where appropriate, with the full participation of youth at all stages to promote participation of youth, and also to involve youth in decision making at national and sub-national levels, and in volunteerism, skills development, employment creation and entrepreneurship development;”²⁶

During the 24th UN-Habitat Governing Council on 17th April 2013, at the Dialogue afternoon-session on youth, the authors made a statement to the President of the Governing Council on behalf of the private sector and UN-Habitat Youth Goodwill Envoy. “ In order to address the global youth unemployment problem we propose the following next steps:

Firstly, at the normative global level, to develop, in close cooperation with the Inter-Agency Network on Youth Development of the United Nations, an ICT-based Global Youth Campaign for Employment and Entrepreneurship.

Secondly, at the national and operational level, to develop comprehensive national youth employment programmes based on successful experiences from the dual vocational education and training systems as well as entrepreneurial training and motivation programs. These programmes should incorporate latest ICT developments”²⁷.

The last paragraph of the above-cited statement makes an important reference to the forthcoming United Nations Conference on Housing and Sustainable Urban Development (Habitat III): “ Finally, the outcome document of Habitat III should fully recognize that youth employment and empowerment is a *conditio sine qua non* for sustainable urban development in all United Nations Member States.”²⁸

The foregoing text in chapter 1 documents convincingly how a whole range of normative initiatives in form of publications, declarations and resolutions have addressed the global concern of youth (un) employment. It also has hinted at several occasions to the important instrument of dual vocational education and training systems (DVETS). The following chapter 2 will provide a closer look at DVETS by explaining its origin, current system and further development.

²⁶ United Nations (2013) Governing Council of the United Nations Human Settlements Programme, Resolution on youth and sustainable urban development, HSP/GC/24/13, Nairobi

²⁷ Günter Karl/Wolfgang Riegelsberger (2013) Statement to the Dialogue afternoon-session on youth, p. 2

²⁸ Op. cit., p. 2

Dual vocational education and training system: Origin, current system and further development, including export²⁹

2.1 Origin

Vocational education and training originates in the guild system which started in the 11th century in the cities of Europe. The guild system was emerging in Bologna, Paris, London and as early as 1106 in the city of Worms (Fisher Guild) in Germany.

The guild is based on three fundamental categories of craftsmanship: 1. The apprentice 2. The journeyman/craftsman 3. The master.

The master is allowed to train apprentices about their particular craft or trade. The apprentice training period varied from three to seven years and the apprentice was living in the master's house. The latter aspect is relevant from a cultural point of view, namely that the apprentice was considered to be part of the family of the master. It is important to note that the family of the apprentice had to pay money for the apprentice (Lehrgeld) to the master who covered the living costs and the training of the apprentice. This was a considerable amount of money which ranged from 20 to 50 Gulden per annum.

Over the centuries, the guild system had its ups and downs depending on whether the guilds were seen as beneficial or an obstacle to economic, social and political development in a particular city. It is also very important to understand that the guild system which lasted for such a long period of time was a **single** vocational training system which was based on the practical skill development only. It nevertheless constituted a remarkable success story of craftsman training and advancement of a whole range of crafts for eight centuries.

The birth and gradual emergence of the **dual** system can historically traced back to the forthcoming of industrialization in the 19th century. The gradual appearance of so-called professional schools (Berufsschule) developed into the theoretical pillar of DVETS.

Industrialization required professions and job skills which could not be provided by craftsman of the guild system. The necessary industrial qualifications required more and more technical skills and theoretical basic knowledge which the traditional school system was not able to provide. As a result, Sunday schools, evening schools and so-called further education schools (Fortbildungsschulen) mushroomed.

In Prussia, as early as 1845 further education schools became mandatory and in 1863 industrial continuous education schools were also obligatory.

The further education schools spread throughout Germany and according to Greinert³⁰, the foundation phase of DVETS in Germany can be classified from 1870 to 1920. In that period

²⁹ Elements of this chapter are described in: Günter Karl/Wolfgang Riegelsberger (2014) The origin and further development of the German Dual Vocational and Education Training System, power point, 17 pages.

³⁰ Wolf-Dietrich Greinert (2006) Geschichte der Berufsbildung in Deutschland, p. 499

there were a number of legal initiatives which developed the further education schools into professional schools (Berufsschule).

During the Federal School Conference of 1920, schooling in further education schools up to the age of 18 became mandatory and finally the Federal Law on Duty to Schooling consolidated the professional school system in Germany. DVETS was now firmly in place and Greinert³¹ calls the period from 1920 to 1969 the consolidation phase. What is important to mention in this phase that apprentices had to pay apprentice money (Lehrgeld) up until the end of the Second World War. The practice of paying Lehrgeld gradually disappeared after the war, probably because of the severe shortage of labor due to the war. The other important aspect of the consolidation phase was the fact that there was no unifying legal system for DVETS for the whole country.

2.2 Current system

The German Trade Unions expressed strong interest in a national law on DVETS. The SPD brought the subject into the CDU/SPD coalition agreement in 1968 and in August 1969 the comprehensive vocational education and training law (Berufsbildungsgesetz) passed the Parliament and came into force on 1. September 1969.

This was now the full-fledged and legally completely worked out law which is the object and content of DVETS in Germany. Among other things, it determines that the apprentice had to be paid from the beginning to the end of his/her apprenticeship. The law also elevated the apprentice to an employee or worker of a company with the same rights. The vocational education law from 1969 can be considered as a successful approach to unify the spheres of interest of economic policy, social policy and education policy. The law puts together the legal contractual parts of the vocational relationships of all economic branches and professions. As a result one cannot distinguish between the form of the vocational contract of apprentices from crafts, trade or industries.

The German DVETS turned out to be a very successful system which was also applied in Austria, Switzerland and to a certain extent in the Netherlands. In the 1970s and 1980s almost 50 % of a young generation was absorbed in DVETS. In recent years, with a stronger appearance of university students, this percentage came down to about 35 %. In the year 2013, more than 500,000 young people were pursuing DVETS in Germany.

The expansion phase of DVETS is characterized by a legal revision which is called the 2005 vocational and educational training law and considerable efforts on the part of the German Government to export DVETS to other countries. The Report on Vocational Education and Training 2013 of the German Government, states the following: "In the context of international vocational training cooperation there is a clear interest in and a high level of appreciation for the dual training system. In the wake of global financial and economic crisis and its effect on the labor market,

³¹ Op. cit., p. 501

many countries and the OECD regard the dual system as a core element of economic success and social cohesion in Germany”³².

2.3 Further development

Since the 1990s, the German Government, through BMZ and GIZ has been very active to promote the export of DVETS to other countries. The success of exporting DVETS has been limited³³, simply because DVETS cannot be transferred on a one to one basis into another economic, social and cultural environment. There is one interesting book by Prof. Euler³⁴ entitled “Germany’s dual vocational training system: A model for other countries?” which provides a good overview of common obstacles while trying to export DVETS.³⁵

The most serious obstacles are one the one hand the difficulties to convince the private sector companies to provide apprenticeships and on the other hand the extensive and expensive professional school (Berufsschule) system.³⁶

Concerning the first obstacles, we have explained at length at the beginning of this chapter how the apprentice system has evolved over 900 years in Germany and how it is an integral culture of the German Society. To introduce such a system in a country where such a culture and understanding of the private sector does not exist, is not an easy task.

Similarly, the professional school system (Berufsschule) is an expression of educational culture in Germany which needs extraordinary efforts to develop it in an educational environment which does not know such a system.

The German Government through its technical cooperation organization GIZ has followed a pilot project approach³⁷ for selected professional groups and by using German companies abroad who understood the importance of apprenticeships. The professional school part of DVETS was typically heavy loaded with German experts. There is also a considerable number of projects in which the foreign apprentices were brought to Germany where DVETS programmes, at times in a shortened form, were executed.

It can also be argued that pilot projects are of little impact and are hardly replicated on a larger scale. To introduce DVETS on a larger scale, ideally for a whole country, brings about a number of positive effects, including economies of scale.

³² Federal Ministry of Education and Research (2013) Report on Vocational Education and Training 2013, Bonn, p. 79

³³ An exception has been the development experience with Portugal. See for example: Hans-Joachim Böhmer (2013) Deutsche Ausbildung, S.18-19

³⁴ Dieter Euler (2013) Germany’s dual vocational training system: a model for other countries?

³⁵ See for example also on this: Kari-Consult (2013) Task Force meeting on Youth, ICT and Dual Vocational Education and Training, Minutes Summary, 2. July

³⁶ See for example Kuhn, Willi (2014) Berufsschulen zukunftsfähig machen, in: Wirtschaftsmagazin Pfalz, p. 3, März

³⁷ See for example Deutsche Gesellschaft für Internationale Zusammenarbeit GIZ GmbH (2014) Unternehmensbericht 2013, p. 42-43

It would go beyond the scope and size of this article to elaborate in detail on the above-mentioned obstacles. Instead, we would like to present a technical cooperation example which tries to deal with those issues. We are talking about a project document on a youth vocational and leadership (YouthVAL) project for the state of Chhattisgarh, India which was prepared by the authors in their capacity as consultants to UN-Habitat.^{38 39} As the title of the project document indicates, it is wider than DVETS but it covers to a large extent DVETS and is therefore a good example.

The promotion of the provision of apprenticeships is dealt with through a comprehensive countrywide campaign supported by the Government and chambers of commerce and trade. It is crucial that this campaign makes it convincingly clear to the private sector that DVETS embodies tremendous benefits to the employer. Apprentices become productive (and profitable) to the employer after a short time of the apprenticeship. The famous British economist and Nobel Laureate John Hicks's view on the apprentice is "He is overpaid at the beginning of his time, and underpaid at the end".⁴⁰

On the side of the professional schools, the project document elaborated the following approach. The learning material of the professional school for the respective profession can be made available by the German professional school authorities and used as a model. It will be translated in English and the local language and revised in light of the local circumstances. The resulting locally adapted learning material will be taught by local teachers.

The Chhattisgarh YouthVAL project is in a favorable situation because a local NGO will be providing the facilities where the teaching will take place. There is therefore no need for expensive school buildings. The YouthVAL project is also unique in the sense that it will try to apply new learning methods such as e-learning and learning on demand wherever appropriate. This is the way which DVETS has ultimately to move to also in its founder country Germany.

The author has spent considerable time and effort to think through the implications of the digital revolution with regards to DVETS. The implications are very powerful and far-reaching which led the authors to think of the necessity of a digital DVETS or in short DDVETS. The features of DDVETS will be subject of a separate technical paper to be published under the Institute for Global Responsibility and Leadership discussion papers.

1. Relevance to Housing and Sustainable Urban Development

The following paragraphs highlight the importance and relevance of the above to housing, construction and international cooperation and development.

3.1 Quality of buildings and construction technology

The high-quality craftsmanship arising from the dual system gives rise to high quality buildings and construction. Through systematic training, technology is applied at the highest standard observed by professional associations in order to maintain best

³⁸ UN-Habitat (2013a) Youth Vocational and Leadership (YouthVAL) Programme, Concept Note, Nairobi

³⁹ UN-Habitat (2013b) Youth Vocational and Leadership (YouthVAL) Programme, Project Document, Nairobi

⁴⁰ Hicks, John (1969) A Theory of Economic History, p. 139

practice. The positive implications of that process do need to be explained; they are obvious.

3.2 City planning and management

Similarly, the staff in city authorities is well-trained through dual education and is therefore equally competent to plan and manage the building and construction stock resulting in good city planning and management..

3.3 UN Conference on Housing and Sustainable Urban Development (Habitat III)

The Habitat III Conference is scheduled to be held in Quito, Ecuador around September this year. The youth agenda and the dual vocational education and training system will feature prominently in this global conference because of the reasons explained at length in this paper.

Conclusions

It is important to understand from this paper that youth employment through DVETS is in actual fact genuine youth empowerment. ILO estimates youth unemployment at around 73 million worldwide. This might be a rather conservative estimate given the fact that there are many countries where youth unemployment is in the 60-70 percentage range. This large amount of idle and hopeless young people are a scourge for their society and ticking time bomb for social and political unrest.

We need to spread the news about the proven and extremely efficient tool of DVETS to combat and eradicate youth unemployment to all Governments of the world. But we need not only to talk about it, we need to actually implement the necessary projects in order to get action on the ground.

Technical cooperation for DVETS at the country level is the ultimate goal. In that connection we would like to cite from the first page of the consultancy work for the YouthVAL program which is actually a global program for the implementation of DVETS:

“In order to advance the YouthVAL programme at the global level, a brief vision, mission and strategy statement has been drafted which is outlined below.

1.1 Vision

The Vision of YouthVAL is to eradicate youth unemployment by the year 2030

1.2 Mission

To engage UN Member States in the YouthVAL programme in order to reduce youth unemployment to levels currently prevailing in Germany, Austria and Switzerland.

1.3 Strategy

To create a strong UN Inter-Agency Partnership which puts youth employment as a top priority for UN Member States and the participating agencies. Among these agencies should be UN-Habitat (chair), UNDP, World Bank, ILO, UNESCO, ITU, UNIDO, UN Regional Commissions and the UN Secretariat (DESA, Global Compact). Secondly, the UN Inter-Agency Partnership and the UN Member States should use the Chhattisgarh YouthVAL Pilot Project as a model, revising it according to their specific country circumstances.”⁴¹

Last but not least, we would like to reiterate a citation we made earlier on with respect to the forthcoming United Nations Conference on Housing and Sustainable Urban Development (Habitat III): “The outcome document of Habitat III should fully recognize that youth employment and empowerment is a *conditio sine qua non* for sustainable urban development in all United Nations Member States.”⁴²

⁴¹ UN-Habitat (2013b) Youth Vocational and Leadership (YouthVAL) Programme, Project document, p. 1, Nairobi

⁴² Günter Karl/Wolfgang Riegelsberger (2013) Statement to the Dialogue afternoon-session on youth, p.2

8. Measurement without theory and theory without measurement. A personal account

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Introduction

The purpose of this paper is to show that theory and practice are mutually supportive to reach meaningful, balanced and successful results. More often than not theory workers and practice worker are in stiff competition for resources and recognition. This very common human process is from a higher perspective unfruitful and creates bitterness among employees, business people and the like. This phenomenon also exists very prominently in academic circles. My own work and academic experience will serve as a “proof” that the fruitful interplay with theory and practice leads to very good results.

Work and academic experience: To my teachers ¹

I have spent quite some time in my schooling, vocational training/education, academic and professional life in business and in the United Nations with data collection, data analysis, statistical theory as well as statistics in general. Footnote (statistical publications, see PHD, UN-Habitat statistics publications, all in Literature list, chow test, structural breaks).

I also studied business administration with emphasis on sales, advertising and marketing at the bachelor level and studied economics at the master level with a strong focus on statistics and econometrics. This also included real data input-output analysis for German empirical input-output tables, covering several years.

My bachelor thesis was an econometric forecasting model for IBM electrical typewriters in 21 countries of IBM’s business engagement in 1978. The econometric model entailed a tremendous amount of empirical data provided the Planning and Forecasting Department of IBM headquarters² and involved a lot of mainframe computing. The model was programmed by myself in APL (A Programming Language) an IBM invented programming language , which is close to mathematical rules, principles and logic.

The model performed well and provided the General Business Group/International Forecasting and Planning Department fairly good forecasting results for a planning horizon of 12 years. Programming and test runs of the model which went through many stages of revision and fine-tuning involved a lot of data management and computer time at IBM’ big blue 360 machines. My econometric efforts were quite successful but I became aware that I badly needed statistical theory after a lot of un-reflected number crunching. Instead of starting a lucrative professional career I decided to do my master’s degree. I was “hungry” for statistical theory and economic theory and policy.

I enrolled in the University of Hamburg in economics, where I studied statistical theory, general economics, national accounts (John Hicks, A Social Framework) as well as some undergraduate growth and distribution theory. After one semester, I shifted to the University of Bremen, where I was studying advanced economic distribution theory (Adam Smith, Karl Marx, David Ricardo, Alfred Marshall, Piero Sraffa). I was also studying development theory and policy and to some extent financial markets (Gerhard Leithäuser , Francois Peroux, Dominance theory).

¹ We are referring to names of teachers only; because their academic contributions can be googled by their names.

² I had a traineeship with IBM for initially 6 months which was later extended to altogether 18 months.

On the empirical side Peter Kalmbach, Wassily Leontieff, Input-Output Analysis, Long waves theory, business cycles, innovation as engines of growth, Kaldor's growth theory and policy, Productivity growth, John Maynard Keynes, anticyclical economic policy, labor market theory and policy. Kalmbach, Kaldor, Kurz, Hagemann, Kieler Schule (Axl Sell), Alfons Lemper, Rudolf Hickel, Siegmund Stöppler, Klaus Schebesch (Chaos theory) It was an extremely productive intellectual period of my life. Rasul Shams, development theory and policy and global financial markets, Sebastian Dvorachek, Business management and orthodox Keynesian Otto Steiger. Francis Cripps was my outstanding mentor who was Kaldor's scholar and later much further than Kaldor, who more often than not was contradicting himself. Cripps made him aware of this contradictions because of his mathematics bachelor degree. I had the honor to meet Joan Robinson personally just before she died and Lord Nicholas Kaldor as well. Professor Siegmund Stöppler was very influential for me. Linear and Dynamic (reality is non-linear and dynamic) production theory, matrix algebra, binary number systems, mainframe computers Fujitsu/Siemens/IBM, student assistant for Prof. Stöppler, Prof. Leithäuser and again Francis Cripps on European economic policy and co-ordination.

The Cambridge/Cambridge "Battle"

Since the foundation of the economic science by Adam Smith (Scotland) and a whole range of eminent, superb and prominent economists from Great Britain and by an equally amount of great economists from the US, an academic "battle" has taken place which is documented in immense numbers of text books and research articles. It can be traced in the so-called competition between Cambridge, England and Cambridge US (MIT, Harvard and the Ivy League in general).

The protagonists of both of the grand "battle" can basically be put into 3 Boxes. Box 1: TwM, Box 2: MwT and Box 3 as a mixture of both Box 1 and Box 2. We shall be arguing that it is Box 3 which really matters, reflecting reality.

In 1981, Kurt W. Rothschild published a text book entitled "Einführung in die Ungleichgewichtstheorie"³ which explains in great detail and very precise why we should be favouring Box 3.

Box 1 is "scattered" with purist followers of the GE theory and Box 2 is full of econometricians. Again, Box 3 contains both "brands".

Box 1 has a large amount of great of economic theorists, the likes of Leon Walras etc. (see Rothschild) and many "defenders" of the GE theory who maintain that in the long run there will be equilibrium. Professor Ulrich Krause (mathematics University of Bremen is my favourite in this group. Box 2, as mentioned earlier is full of great econometricians and economic policy "practioners". See for example Professor Lord Nicholas Kaldor. Box 3, of course has Adam Smith, John Maynard Keynes, John Hicks and Francis Cripps.

John Maynard Keynes disarmed the GE theory "Yes, I like clickers" by stating: "In the long run, we are all dead". Among the Box 3 "inhabitants" are also David Ricardo, Alfred Marshall, Piero Sraffa and a large amount of excellent economic professors of the so-called post-keynesian school of thought. There are several of my economic teachers such as Rudolf Hickel, Otto Steiger, Gerhard Leithäuser, Peter Kalmbach and Heinz Kurz, all retired professors of the University of Bremen.

³ In English: Introduction to disequilibrium theory. This book provided a superb, precise and outstanding account of the "State of the art".

Francis Cripps, one of my key mentors, came from mathematics as well as Professor Siegmund Stöppler and Wassily Leontief. All of them are particularly important members of Box 3. Professor Rasul Shams is also a key member of Box because of his great understanding of development, financial markets and policy.

We shall not be able to go into more detail on the above subject because university libraries are fully stocked with research and empirical “evidence” on the subject of this paper. Instead we shall subscribe to Friedrich Nietzsche who wrote in the introduction of the “Die fröhliche Wissenschaft”: “Ich halte es mit den Griechen. Ich bin oberflächlich aus Tiefe.”

At the end of the day, however, Money, Time, Security, Theory and Policy matter.

9. Monopolistic competition, price discrimination as a development company behaviors in the housing primary market

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The paper presents the personal opinions of the authors and does not necessarily reflect the official position of Narodowy Bank Polski or the Warsaw School of Economics.

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Abstract:

Firms operating in the property sector use information asymmetry and the local monopoly to differentiate prices of housing units. Selling similar housing to purchasers at various prices allows them to maximize profits. The aim of this article is to analyze empirically the behavior of developers, that shape market situation. It is necessary to depart from the classical analysis of enterprises that operate in a free and competitive market and produce typical, homogeneous goods. We analyze firms that produce heterogeneous goods and make individual transactions with each client. We use the hedonic regression to compare the theoretical and empirical prices per sq. m. of dwelling in the primary market in Warsaw and find significant dispersions. The price discrimination strategy, caused mainly by changes in demand could be one of the explanations of the observed high, upward elasticity of prices.

JEL classification: O18, M2, R31.

Key words: Monopolistic competition, price differentiation, housing market, information asymmetry

1. Introduction

The housing market plays an important role for households, because of its consumption and investment functions (Łaszek, 2004). The functioning of that market is the subject of many research papers, but the supply side is not that well described, especially at the micro level. A housing unit is a specific, costly and immobile good, and many empirical studies try to explain the demand and supply side of this good. Taking into account that transactions are individual, it is important to make the market more transparent.

New dwellings amount only to a small part of the housing stock each year, but they play an enormous role in satisfying households housing needs. It is important to stress that the competition between the primary and secondary market is indirect. There are several reasons: subsidized housing programs, formalities and taxation issues, the diversity of the technical conditions of a building and the quality of a dwelling. Moreover in Poland we have a big share of owner occupied housing in the housing stock.

Understanding how developers shape the market can help to reduce a banking crisis risk and help to effectively satisfy people's housing needs. The developer is an entrepreneur who organizes the process of building and sells a newly built dwelling to gain profits. Developers do not operate in a free and competitive market and produce typical, homogeneous goods. They produce heterogeneous goods and sell housing units at different prices to different clients (Łaszek and Olszewski, 2015). However, we want to stress that the localization is an important factor, which distinguishes house prices on the primary market (Dubin, 1992). The robust development of econometric methods allows us to take into account spatial relationships among house prices. Observing the development of house prices and single transactions that are collected in the National Bank of Poland data base, we set the two research questions and tackle them with a hedonic regression:

Research hypothesis 1: The developer market in Poland works as a price discriminating market, not under free competition

Research hypothesis 2: Due to information asymmetry the developer may charge a higher price than under free competition and the consumer has a welfare loss. Better dissemination of information would help to reduce this problem.

The paper is organized as follows. Section 2 gives an overview of the heterogeneity of housing units, section 3 describes the behavior of developers in detail. Section 4 presents the empirical results while section 5 concludes the paper.

2. Primary housing market and the behavior of developers

There are four factors, that have a huge influence on prices in the housing sector: imperfect knowledge about individual transactions and information asymmetry, heterogeneous quality of dwellings, spatial location and the individual character of every transaction.

The house buyer tries to obtain as much as possible information about the market, but what he really knows at a given moment are average prices and some offers he receives from developers. Contrary, the developer, as there are relatively few large firms on the market and there is high market concentration (see NBP, 2012), knows quite well what his competitors offer. He offers each client the same housing unit at an individual price and keeps the amount of available housing units in a given location secret.

The housing market is very heterogeneous, which complicates the analysis for the home buyer. Even if someone knows the mean transaction price in a given city quarter, prices per sq. meter of specific dwellings differ very much. They depend negatively on the size of the dwelling¹, but are growing with the amount of amenities, the given dwelling offers. Taking into account the diversification of flats, one has to understand the transaction price as the sum of valuations of a housing attributes, such as the total area, standard, localization (see Rosen, 1974). Various articles tackle the issue of housing heterogeneity and quantification of that problem (Ridker and Henning, 1967; Tomczyk and Widłak, 2010). Because it is nearly impossible to find a perfect substitute for a particular flat, the market operates as a monopolistic competition (Tse, 1998).

The results of Monk and Whitehead (1996) suggest that the land market is spatially segmented, which implies that land in one localization is not a perfect substitute for land in a different localization. The degree of spatial differentiation can be changed due to improvements in communication such as the development of public transportation, construction of roads. If we create access to the transportation system on earlier difficult-to-access grounds, we can generate a higher demand for this land. This improvement will reduce transportation costs, and as a consequence households will be less willing to pay more for places nearer to city center. Nevertheless the spatial segmentation, the return of the investment in the long term should level out, as a costs of better-located lands are higher.

Finally, transactions are done by private persons, who have various taste, different financial situations and living conditions. Leaving the tastes beside, the financial situation and the

¹ The construction of a dwelling has some fixed costs, such as the kitchen, the toilets and other fixed parts, that are there irrespective how big the flat is. Additionally, people have a given amount of money they can spend, thus the demand for small dwellings is quite high. Developers know that and charge higher prices per sq. meter than in the case of larger dwellings.

current living conditions play an important role in the decision process. If the buyer is currently renting another dwelling, where he pays more or less the same amount of money to the landlord as he would pay to a bank for the mortgage installments (see NBP, 2015), he wants to buy a new dwelling as quickly as possible. If the buyer needs to buy with a mortgage, he might be worrying that price increase quickly and he will not be able to take a huge loan. Contrary, cash purchasers, who buy the dwelling for their children or for renting are in a better situation. They can collect a lot of offers and wait a considerable time before they buy, by which they have some negotiation power.

There are three major factors that influence the primary housing market in Poland. First of all, land supply is strictly constrained by the decisions of municipalities. Prices of developers dwellings vary and usually are subject to negotiations. The production on the primary market is concentrated. There are few very large developers, that sell large a number of dwellings.

The primary housing market can be defined as a set of submarkets with information asymmetry, where heterogeneous, non-assignable goods are sold. The development company is a price maker, not a price taker, mainly because of three reasons: uncertainty, diversity of quality, localization and the individual nature of transactions. The development sector is usually described in the literature as a free-market and the strong competition between a large number of business entities is stressed. These conclusions are based on international data, but the Polish development sector is characterized by a high level of production concentration (NBP, 2012). There are huge market entry costs and land is difficult to substitute, so the developer has monopolistic power and as a consequence can control prices (Emmanuel, 1985). Development companies operate more like under monopolistic competition than as a free competition firm. A particular number of enterprises supply the market with a diversified product, which is intended to satisfy basically the same needs. But each new building is presented by its creator as a unique good, because of its higher quality and spatial monopoly. So the competition from companies, that sell similar flats, is constrained. While settling prices enterprises move along the demand curve, which implies that he is a price maker. In the case of the classical monopoly relatively high prices, low supply and unexploited production factors can be observed. The analysis of the Polish development sector does not confirm that developers follow typical behaviors characteristic for monopolistic competition or the classical monopoly (see NBP 2015, REAS 2014). Developers have a tendency to keep prices high, but react elastic to an increase in demand and they show a propensity to excessive

supply. More accurate analysis confirms that single prices are partially elastic, sellers are willing to lower a price if they see that there is a problem with selling a particular flat.

Moreover we can find signs of price discrimination in the primary sector. Monopolists offer flats at a prices equal to the clients maximum willingness to pay, which means they gain all consumers surpluses. In the housing market all deals are closed in an individual contact with a purchaser – this is a typical situation for discriminating monopoly (Łaszek and Olszewski, 2015). There are some smaller companies, but they do not produce many dwellings. They attempt to find their own niche to compete with bigger players, but do not lower prices in fear of a price war. Instead they focus on extensive promotions to highlight the distinctive benefits and features of their products or they deliver goods to particular groups of buyers.

While analyzing the developer, we want to stress that the supply side is still not completely discussed in the literature, most likely because of lack of reliable data about single investments and single transaction prices. DiPasquale and Wheaton (1999), DiPasquale (1992) or Wheaton (1999) conducted a macro analysis of the supply side. Empirical research was carried out by Stover (1986) or Epple (2010), whereas supply and demand side was described by Tse et al. (1999) or Phang et al. (2010). But we lack a literature that discuss theoretically and empirically supply side in a micro scale, and Łaszek and Olszewski, (2015) present a first approach to this problem.

The supply in the primary housing market is determined by three factors: land accessibility, the structure of new stock and regulations constraining supply. Growing prices usually impact on increasing production costs or land prices and may cause launching law restrictions. The realization of the housing development project in Poland takes around 4-5 years. Developers possess land banks for construction purposes that amount to around 6 years of production (NBP, 2012), a lot of building permits on stock, so they can relatively fast adjust housing production to higher market needs.

Purchasers preferences are a very important factor, which has an impact on housing price formation, but dwellings are sold in a direct contact with developers, which also have an influence on transaction. Developers can gather information about the maximum price a buyer is willing to pay (reservation price) and propose a housing to every client at an adequate and different price. The buyer finds it difficult to verify the prices because of costs and information asymmetry. Raymond (1998) suggests that some developers sell regularly a small number of housings to give

an impression of shortfalls, which in turn constrain consumers choice, strengthen the competition between purchasers and cause an information asymmetry. There are also other methods to generate extraordinary profits. Barlow (1993) claims that in the real estate sector negotiation skills and finishing projects on time help to maximize profits. The observation of Polish development sector seems to prove this results. The price differentiation mechanism and calculations are presented by Łaszek and Olszewski (2015).

3. The empirical analysis of price differentiation in the primary market

The aim of this article is to measure price differentiation on the primary market to verify the hypothesis about the existence of a discriminating monopoly. As we mentioned in chapter 2 and 3, housing is a heterogeneous good, so simple dispersion methods, such as standard deviation, variance or range present inaccurate results, because we compare different products. In a first step we estimate a model of a price per sq. m., which will explain how developers valued their new flats. In the next step we calculate the theoretical values of housings and compare them with real transaction prices.

We use information about transactions from the primary housing market that are gathered in the BaRN data base.² The next step was to clear the data set and reject outliers. We dropped observations if:

- Price per sq. m was higher than 20 000 and lower than 2 000 PLN.
- Total area of dwelling was less than 15 sq. m. and more than 150 sq. m.

The final data set consists of 33 337 transactions in Warsaw primary market concluded from Q1 2006 to Q4 2014. Our data set consists of physical attributes of dwellings, such as the number of rooms, standard, localization variables (dummy variable for districts), information about the transaction date and many more parameters mentioned in appendix 1. It could be expected that all variables from the BaRN database potentially have an impact on housing prices. We decided that we will consider variables where not more that 30% of observation are missing. All the explanatory variables included in the model are chosen on the basis of our knowledge and results of models (tests VIF and RESET). We estimated an OLS model, that consists of 53 independent variables and 1 dependent variable (the logarithm of price per sq. m). The results are presented in table 1. The RESET test indicates that the model is specified correctly and the collinearity is moderate ($VIF < 10$). We use the heteroskedasticity and autocorrelation consistent estimator (HAC). On the basis of our estimation results, we confirm that most variables are statistically significant and their estimated direction of influence on house prices is as we conjectured. The coefficient of determination R^2 amounts to about 64%. Taking into account that this is a model built on micro data we can claim, that our results are satisfying.

² A database created by Narodowy Bank Polski.

Table 1. The result of the OLS regression. Sample: 33377 observations, dependent variable: logarithm of the price per sq. m. of housing

	<i>Coefficient</i>	<i>Standard Error</i>	<i>t-Student</i>	<i>p-value</i>	
const	9,2630	0,0067	1390,2508	<0,00001	***
Mokotow	-0,2803	0,0073	-38,2505	<0,00001	***
Wola	-0,3904	0,0069	-56,3638	<0,00001	***
Zoliborz	-0,3442	0,0069	-50,2462	<0,00001	***
Ochota	-0,2989	0,0075	-40,0836	<0,00001	***
Ursynow	-0,4236	0,0083	-51,0140	<0,00001	***
Wilanow	-0,4453	0,0067	-66,7535	<0,00001	***
T_20062	-0,3838	0,0048	-79,9149	<0,00001	***
T_20063	-0,1952	0,0067	-29,0744	<0,00001	***
T_20064	-0,1253	0,0065	-19,3792	<0,00001	***
T_20071	0,0275	0,0084	3,2890	0,00101	***
T_20072	-0,0187	0,0109	-1,7205	0,08536	*
T_20073	0,1212	0,0091	13,3273	<0,00001	***
T_20074	0,1935	0,0082	23,6415	<0,00001	***
T_20081	0,2064	0,0111	18,5933	<0,00001	***
T_20082	0,2174	0,0101	21,4944	<0,00001	***
T_20083	0,1978	0,0099	20,0234	<0,00001	***
T_20084	0,1563	0,0086	18,1852	<0,00001	***
T_20091	0,0934	0,0128	7,3116	<0,00001	***
T_20092	0,0831	0,0057	14,5454	<0,00001	***
T_20093	0,0869	0,0074	11,7174	<0,00001	***
T_20094	0,0888	0,0070	12,7513	<0,00001	***
T_20101	0,0324	0,0075	4,3197	0,00002	***
T_20102	0,0153	0,0058	2,6528	0,00799	***
T_20103	0,0365	0,0053	6,9058	<0,00001	***
T_20104	0,0255	0,0046	5,5314	<0,00001	***
T_20111	0,0368	0,0053	6,9690	<0,00001	***
T_20112	0,0402	0,0045	8,9373	<0,00001	***
T_20113	0,0217	0,0053	4,0986	0,00004	***
T_20114	0,0249	0,0047	5,2552	<0,00001	***
T_20121	-0,0016	0,0049	-0,3252	0,745	
T_20122	-0,0194	0,0048	-4,0144	0,00006	***
T_20123	-0,0482	0,0061	-7,8574	<0,00001	***
T_20124	-0,0640	0,0050	-12,6913	<0,00001	***
T_20131	-0,0376	0,0043	-8,7579	<0,00001	***
T_20132	-0,0200	0,0039	-5,1166	<0,00001	***
T_20133	-0,0196	0,0040	-4,9347	<0,00001	***
T_20134	0,0081	0,0038	2,1226	0,0338	**
T_20141	0,0096	0,0036	2,6745	0,00749	***
T_20142	0,0159	0,0035	4,5589	<0,00001	***

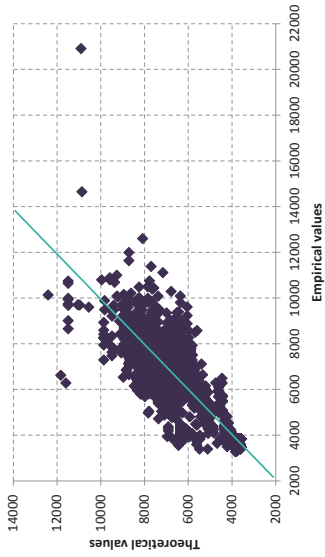
T_20143	0,0271	0,0037	7,2777	<0,00001	***
T_20144	0,0150	0,0034	4,4100	0,00001	***
gr1	-0,4586	0,0067	-67,9630	<0,00001	***
gr2	-0,6252	0,0067	-92,6317	<0,00001	***
gr3	-0,4082	0,0069	-59,1718	<0,00001	***
gr4	-0,5788	0,0089	-64,9283	<0,00001	***
gr5	-0,5383	0,0070	-76,5830	<0,00001	***
p40	0,0191	0,0020	9,5858	<0,00001	***
p60_80	-0,0244	0,0017	-14,5386	<0,00001	***
p80	-0,0290	0,0026	-11,1062	<0,00001	***
tech_2	0,0303	0,0028	10,6725	<0,00001	***
tech_3	0,0875	0,0030	29,5157	<0,00001	***
niskie	-0,0392	0,0014	-27,0919	<0,00001	***
wysokie	0,0771	0,0088	8,7282	<0,00001	***

Charts 1-5 present points of theoretical (axis Y) and empirical values (axis X). If the transaction price is equal to its valuation on the basis of the model, the points should lay in the 45 degree line. The big dispersion of points suggest that price are differentiated. Moreover, we can observe that our points are on the right side of the 45 degree line, which means that dwellings are sold at a higher price in comparison with valuation on the basis of our model. The process of price differentiating occurs in a bigger scale in the case of more expensive apartments. This is reasonable, as a richer client is able to pay more for housing, he believes is better for him (better localization, standard and other attributes). The analysis confirms that developers use a discriminating monopoly power. The price discrimination strategy caused by changes in demand could be one of the explanations of the observed high, short-term, upward elasticity of prices. In reality, amidst a relatively low price elasticity of demand at high prices, the possibility of price reductions and a profitable sale of the housing surplus are limited. During the boom period the price differentiation was constrained. The demand was high, so dwellings were sold quickly at high prices and the developer did not need to offer differentiated prices. After the bust, during 2008-2012, we observe a drop in demand, developers had a problem with selling their investments. The strategy of elastic prices helped them survive.

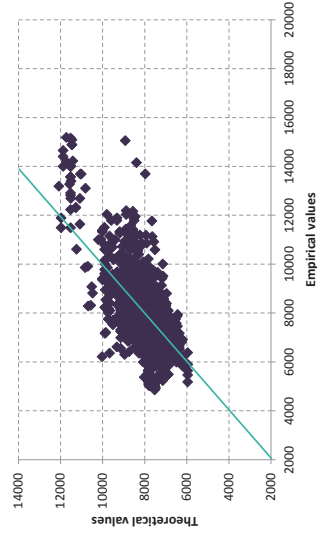
Charts 5-10 present the empirical and median prices of 1 sq. m. of dwelling (in districts) on the primary market. Transaction prices in comparison to median prices is higher, which signalize price discrimination strategy. An interesting remark is that over following years the dispersion of median prices (in districts) is bigger, which means that localization is an important factor while developers are setting strategy

Charts 1 - 5. Theoretical and empirical prices per sq. m. of housing. Estimations of theoretical values base on primary market model.

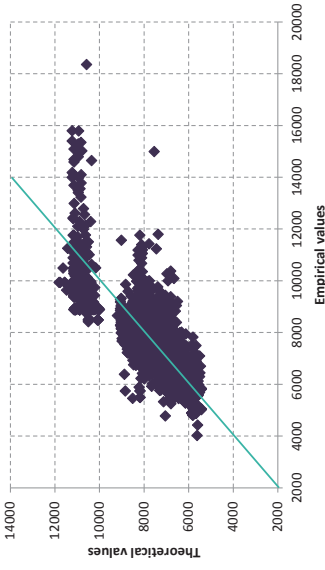
1. 2006-2007



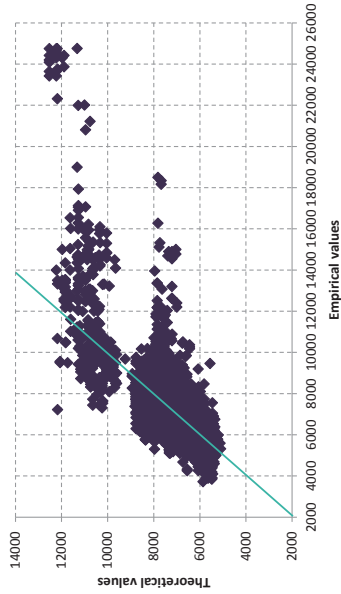
2. 2008-2009



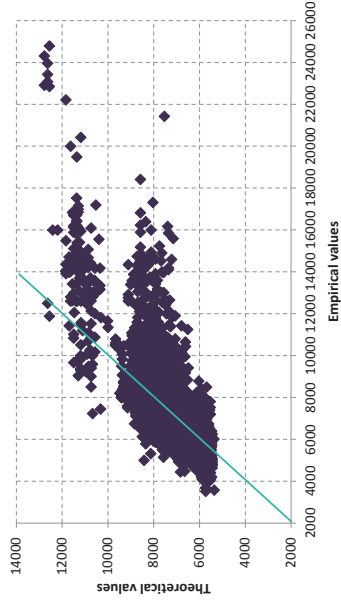
3. 2010-2011



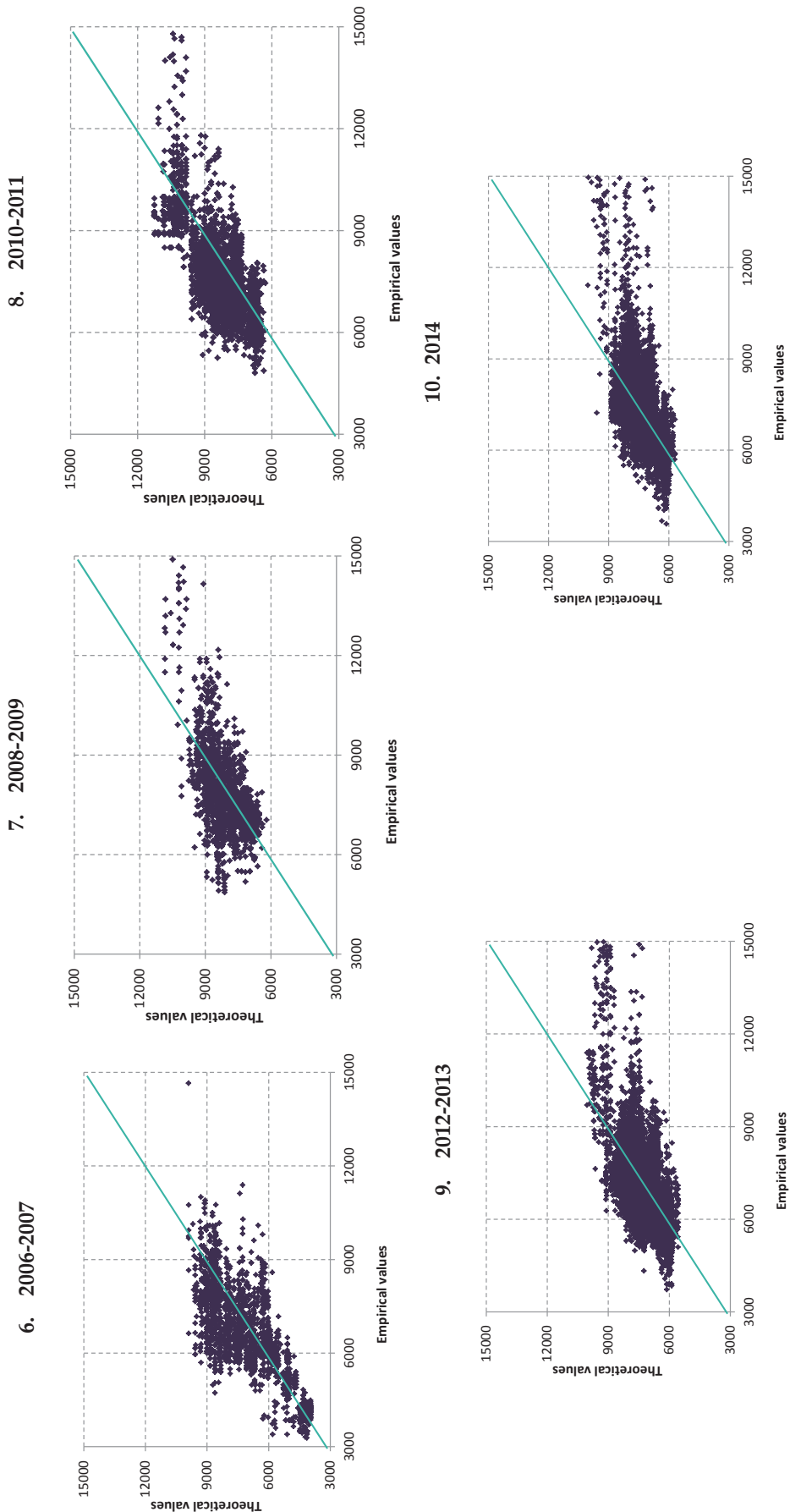
4. 2012-2013



5. 2014



Charts 6 - 10. Theoretical and empirical prices per sq. m. of housing. Estimations of theoretical values base on primary market model. OGR



4. Conclusions

Development firms business is quite different than that of classical enterprises which operate in a free and competitive market and produce typical, homogeneous goods. Developers produce very heterogeneous goods and make individual transactions with every client. Moreover, firms operating in the property sector use information asymmetry and local monopoly to differentiate prices of housing units, which allows them to maximize its profits.

Our empirical analysis shows that there is a dispersion between the empirical and theoretical prices per sq. m. of dwellings on the primary market and during the subsequent periods that dispersion grows. On the basis of the results we claim that developers differentiate prices of expensive flats. One of the explanations of this short-term, upward elasticity of prices could be the price discrimination mechanism. During the boom period the demand was high, dwellings were sold quickly at higher prices and the developer offered differentiated prices to a lesser extent. During 2008-2012, the demand dropped and developers used the price discrimination strategy more often.

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6. Appendix

Description of the explanatory variables. The variables that serve as the benchmark for dummy regressions are underlined.

Mokotow: dummy variable taking 1 if the flat is located in the city quarter Mokotów.

Ochota: dummy variable taking 1 if the flat is located in the city quarter Ochota.

Srodmiescie: dummy variable taking 1 if the flat is located in the city quarter Śródmieście.

Ursynow: dummy variable taking 1 if the flat is located in the city quarter Ursynów.

Wilanow: dummy variable taking 1 if the flat is located in the city quarter Wilanów.

Wola: dummy variable taking 1 if the flat is located in the city quarter Wola.

Zoliborz: dummy variable taking 1 if the flat is located in the city quarter Żoliborz.

gr1: dummy variable taking 1 if the flat is located in the city quarters Bielany or Bemowo.

gr2: dummy variable taking 1 if the flat is located in the city quarters Białołęka or Targówek.

gr3: dummy variable taking 1 if the flat is located in the city quarters Praga Północ or Praga Południe.

gr4: dummy variable taking 1 if the flat is located in the city quarters Wawer, Wesoła or Rembertów .

gr5: dummy variable taking 1 if the flat is located in the city quarters Ursus or Włochy.

p40: dummy variable taking 1 if the total area of a flat (in sq. m.) is less than 40.

p40-60: dummy variable taking 1 if the total area of a flat (in sq m.) is between 40 and 60 sq. m.

p60-80: dummy variable taking 1 if the total area of a flat (in sq m.) is between 60 and 80 sq. m.

p80: dummy variable taking 1 if the total area of a flat (in sq m.) is more than 40

tech1: dummy variable taking 1 if the flat was built in traditional technology.

tech2: dummy variable taking 1 if the flat was built in improved traditional technology

tech3: dummy variable taking 1 if the flat was built in monolithic technology.

niskie: dummy variable taking 1 if the flat on ground or the first floor.

srednie: dummy variable taking 1 if the flat on 2-9 floor.

wysokie: dummy variable taking 1 if the flat on 10 and higher floor.

T_20061 - *T_20144*: dummy variable taking 1 if the flat was sold in a given year and quarter.

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