Risks of Mortgage Loans in the Czech Republic

Rizika hypotečních úvěrů v České republice

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Abstract

Indebtedness through mortgage loans is dominant of household debt in the Czech Republic. The gradual increase in the household debt level may also entail increasing credit risk assumed by banks in connection with their credit exposure to this sector. The objective of the paper is to verify the risk and identify factors that affect the credit risk development in the Czech Republic. We look for correlation between the risk development and the interest rate development. Furthermore, we verify links between the risk and the development of real estate collateral value. The paper does confirm that there are real risks associated with the potential increase in interest rates. No significant risks have been confirmed with regard to the current development of the residential property value. The paper also strives to provide an identification and verification of risks stemming from individual banks' internal processes. It features a detailed analysis of the internal factors (aspects) comprising revenue, competition, as well as distribution.

Keywords

mortgage loans, credit risk, real estate/property prices, interest rate, commission, competition

Abstrakt

Hypoteční úvěry mají dominantní podíl na dluhu domácností v České republice. S postupným růstem zadluženosti domácností se může zvyšovat úvěrové riziko, které podstupují banky ve vazbě na svoji úvěrovou angažovanost do tohoto sektoru. Cílem příspěvku je ověření rizik a identifikace faktorů, které ovlivňují vývoj úvěrových rizik v České republice. Jsou hledány korelace mezi vývojem rizika a vývojem úrokových sazeb. Dále jsou ověřovány vztahy mezi rizikem a vývojem hodnoty zástav nemovitostí. Článek potvrzuje, že existují reálná rizika plynoucí z potenciálního růstu úrokových sazeb. V oblasti aktuálního vývoje hodnoty rezidenčních nemovitostí nejsou zásadní rizika potvrzena. Dalším popsaným výstupem je identifikace a potvrzení rizik, která jsou generována z interních procesů jednotlivých bank. Detailně je proveden rozbor interního faktoru výnosů, faktoru konkurence a také faktoru distribuce.

Klíčová slova

hypoteční úvěry, úvěrové riziko, ceny nemovitostí, úroková sazba, provize, konkurence

JEL Codes

G21, G28

Introduction

Research relating to credit risks in the Czech Republic was conducted in the period of 2013 through 2015. It also comprised a research probe using questionnaires and guided interviews. The investigation focused on the practices of banks in the Czech Republic in the area of credit risk as well as on the prediction of their practices in this area going forward. Managers of selected financial institutions were the primary target of the inquiry, with members of the academia being approached on a secondary basis. Overall, 37 completed questionnaires were collected and subsequently assessed. The guided interviews were conducted prior to the research probe, in order to formulate questions, as well as after the questionnaire survey. The subsequent interviews were to specify and clarify the identified risks. The research has resulted in an information set that is presented and further verified.

One of the main findings of the conducted research was the identification of concerns of some respondents about potential future credit risk in the area of mortgage loans to the household sector. Hypotheses, formulated as output of the preceding investigation, are verified as part of the follow-up activities. The main hypothesis examined is the claim that the primary source of risks consists in the potentially adverse development of interest rates and property prices. This part of the research follows up on past research projects, already conducted in the Czech Republic in the area of systemic risk of interbank services and bubbles relating to the development prices of the residential real estate. Furthermore, the research aims to verify the hypothesis that other significant risks stem from internal activities of individual financial institutions. For the purpose of the hypothesis verification, these risks were classified and categorized within individual aspects that affect potential development of risk in the area of mortgage loans. This concerns the following factors: revenue, competition, and distribution.

1 Empirical Literature

The research follows up on numerous studies conducted in the area of credit risk. In this regard, it is necessary to mention some studies and publications that are fundamental for the general direction of the conducted research.

In the area of the interest rate development, it concerns studies by Cho (2009), Magri and Pico (2010), Hatchondo, Martinez and Sánchéz (2011). With regard to older sources, we can mention Fernald, Keane and Mosser (1994), for example. The aforementioned studies analyze and confirm credit risk resulting from interest rate increases. In addition to efforts aimed at generalizing specific rules in connection with post-2008 practice, the studies also deal with prediction of potential risks. The conducted research generally applies the findings presented in the aforementioned studies. It results in a fundamental analysis of the interest rate development in the area of mortgage loans for the household sector in the Czech Republic.

The research of credit risks associated with the development of property prices and potential development of bubbles follows up on the study by Komárek and Kubicová (2011), and it is also partially affected by the study of Brunnermeier and Oehmke (2012). With regard to other sources that had previously dealt with the issues of credit risk relating

to loan collaterals (with their output/results being applied within the paper), we should mention studies by Hlaváček and Komárek (2009) Eger and Mihajlek (2008), Quagliariello (2007), Himmelberg, Mayer, and Sinai (2005), Helbing and Terones (2003), or Bordo and Jeanne (2002). In this part of the research, fundamental analysis of the development of residential property prices in the Czech Republic was carried out in connection with the aforementioned studies/papers.

With regard to the internal risk factors, the study is a follow-up on the study of Frait and Komárková (2011), as well as the paper by Brunnermeier (2009) in the area of pro-cyclical conduct of financial institutions and interbank relations. The part of the study that deals with the identified distribution factor has been inspired by a study of Vlachý (2010). Furthermore, this part of the research draws information particularly from results of the questionnaire survey and guided interviews. In general, it is safe to say that no specific measures have been adopted by the regulator to cope with such risks until 2015. The first clearly formulated indication of internal risk factors in connection with mortgage loans to the household sector is only included in the last Financial Stability Report 2014/2015, as published by the Czech National Bank on 16 June 2015[1].

Various documents presented by a number of international institutions serve as an important source of information and data in the area of mortgage loan regulations. This mainly concerns the International Monetary Fund (IMF Working Paper 04/2011 and IMF Working Paper 12/2011), the Bank for International Settlements (BIS - Quarterly Review, 09/2013; BIS - Working Paper 11/2013). Moreover, documents of the following institutions and authorities have been used: The Reserve Bank of New Zealand (Consultation Paper 02/2013), Hong Kong Monetary Authority (02/2011), and BBVA Research (01/2014). Individual types of measures applied in the area of global regulation or mortgage loans provided to the household sector have been verified pursuant to the material by Cerruti, Dagher, and Dell'Ariccia (IMF Staff Discussion Note - June 2015).

2 Methodology and Data

The research objective is to prepare information set relating to credit risk and also to identify potential threats concerning mortgage loans to the household sector in the Czech Republic. The research objective can be described as a combined functional/object goal. The method applied can be described as generally scientific, explanatory type. The applied methods are empirical and generally theoretical. Information has been collected through empirical data collection with a follow-up study of written resources. Furthermore, a research probe in the form of questionnaires and guided interviews has been applied. The collected data are further analyzed within the context of the aforementioned studies and documents. In order to compare the collected information and to analyze data, we have mainly used publicly available information from selected banks and financial intermediaries. The Czech Statistical Office and the Czech National Bank also served as another public

1 *The information presented by the Czech National Bank in the current Financial Stability Report 2014/2015 corresponds to the conclusions of independent research presented herein.*

source of information. In order to verify various trends, the data were processed in the form of charts and tables.

2.1 Research Probe

The main input for the risk identification comprises data collected via the empirical research probe, conducted in the form of questionnaires and guided interviews. In conducting the questionnaire survey, a combined method for the delivery and return of the questionnaires was used. The questionnaire coves several topics (the so-called omnibus inquiry was used). The first part of the questionnaire maps the loan process, including the identification of risk and prospective parameters for the loan provision in the Czech Republic. The second part of the questionnaire focuses on respondents' views regarding the future of the banking sector. The questionnaire also comprises questions relating to the respondents' opinions about the interest rate development in the area of mortgage loans to the household sector as well as the development of residential property prices. Furthermore, the questionnaire also inquired whether respondents expect the credit standards for individuals to tighten in the future. Answers were collected from 3 November 2013 to 6 March 2014. A list of potential respondents was prepared during the preliminary stage. Overall, the list comprised 70 individuals, mostly bank managers in charge of approving active transactions. It concerned managers from Komerční banka, Hypoteční banka, Česká spořitelna, UniCredit Bank CR, Československá obchodní banka, Raiffeisenbank and Modrá pyramida – stavební spořitelna. In the survey, 4 bank economists and 4 academicians with long-term experience within the banking sector were inquired as well. Respondents were addressed in a combined manner – with the combination of direct (personal) contacts and email contacts, with email delivery of the questionnaire or link to the SURVIO online platform. The platform was used for automatic collection of information and assessment of basic outputs. In assessing the data collection, 65 questionnaire visits were identified. Overall, 37 respondents completed the questionnaire. The overall questionnaire completion rate amounted to 56.9%. The result can be seen as satisfactory, in spite of the limited number of received responses.

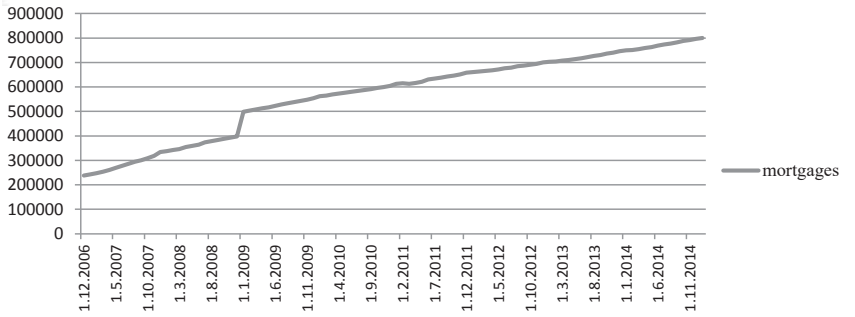
The questionnaire survey was followed by guided interviews, conducted in the form of an in-depth interview. In total, 19 interviews took place. The objective was to identify risks in connection with the questionnaire results that the respondents considered crucial for the future development of credit risk in the Czech Republic. The risk associated with the future development of interest rates was mentioned in virtually all cases. The area of mortgage loans to the household sector was presented as an area with the highest potential risk. The potential risk of future development of the collateral value relating to such loans was also mentioned in this area. Representatives of large banks (Komerční banka, Česká spořitelna and Hypoteční banka) also mentioned significant pressure on business results (revenue retention) and increasing their market share within the segment of mortgage loans to individuals. Representatives of the said banks also mentioned increased competitive pressure of new small banks as well as complications associated with the acquisition of new business via financial intermediaries (so-called third parties) in connection with mortgage loans to the household sector.

3 Development of the Household Debt Level

Housing-related loans have the highest share in the household debt volume. According to most interviewed bank managers, the exposure of commercial banks in the area of household mortgage loans represents a significant risk that has to be monitored and regularly assessed[2]. The follow-up research confirms the importance of monitoring of risks arising from such exposure. Figure no. 1 presents an increasing trend of the housing loans – from 2006 to 31 January 2015. The volume of the provided mortgage loans for residential housing has exceeded CZK 800 bn.

The empirical research compares information received from bank managers with data mainly available from the resources of the Czech National Bank. The latest reports that deal with household debt in relation to housing suggest that the significant volume of new mortgage loans does not pose such risk for the banking sector as it might seem[3]. This information relies on the assertion that predominant share of loans that are reported as new housing loans concerns refinancing of existing loans with new interest rate fixation. The credit risk associated with such loans should be lower due to proven loan repayment and also expected improvement of the real LTC[4] ratio (loan partially repaid to the bank) and also improvement of the LTV[5] ratio for some loans. More accurate data relating to the identification of volumes of refinanced and new mortgage loans to households are only presented in the latest Financial Stability Report 2014/2015 of the Czech National Bank of 16 June 2015.

Figure 1: Development of household mortgage loans in the Czech Republic (CZK mil.)



Source: Own chart based on data received from the Czech National Bank

2 Overall, 15 of 17 respondents mentioned the risk associated with the banks' exposure to household mortgage loans during the guided interviews.

3 Czech National Bank. 2014. Financial Stability Report 2013/2014.

4 LTC ratio (Loan-to-Cost) indicates the ratio of the loan amount to the property purchase price.

5 LTV ratio (Loan-to-Value) indicates the ratio of the drawn mortgage loan to property valuation (sometimes also referred to as LVR).

4 External Risks in the Area of Mortgage Loans

4.1 Risk of the Interest Rate Development

The Czech National Bank also presents that the impact of a sharp interest rate increase on the household debt level would be relatively minor[6]. However, the research conducted by VŠFS confirms that bank managers view the risk arising from a sharp interest rate increase as significant. Taking into account the aforementioned potential disagreement, the view of the Czech National Bank is further verified in the research study. Based on the follow-up basic analysis of the publicly available information and data, it is safe to state that if any interest rate increase is associated with corresponding increase in household income, the said change should not generate significant risks for the banking sector. Otherwise the risk would increase considerably. Data of the Czech Statistical Office have been used for the purpose of the informative assessment, with the household gross adjusted disposable income used as the basic parameter[7]. This parameter has been increasing since 2008. To ensure more accurate description of potential risks, it would be beneficial to perform detailed comparison/analysis for the household debt development trend and the trend for the nominal interest rate development in connection with the household disposable income development using various ratios. However, the basis verified data and trends currently do not indicate any major problems.

The current mortgage loan interest rates are at all-time lows. Figure no. 2 shows the analysis of the interest rate development in the Czech Republic. In order to verify the claim, we have used the statistics of the Czech National Bank[8] as the primary source. Moreover, the company Fincentrum[9] is used as a secondary information source. The average interest rate went down to 2.51% p.a. in February 2015. According to Fincentrum, the average mortgage loan interest rate went down to 2.27% p.a. in February 2015 (Fincentrum already reported the average interest rate of 2.51% p.a. in October 2014). The difference between the CNB data and the Fincentrum data stems from their different form as well as different data collection and assessment methods.

In order to further verify the identified risks, it would be necessary to perform detailed analysis of the situation pertaining to individual financial institution. There are currently no accurate data and information available on the provided mortgage loans in terms of average interest rates and share of mortgage loans provided at high LTV levels.[10] Furthermore, no accurate data are available regarding mortgage loans provided to higher-risk clients. Such information could probably be derived from individual banks' internal data in connection with assigned rating. Unfortunately, the data are normally not available; moreover, it is unlikely that such data would allow identification of specific reasons for

6 *Czech National Bank. 2014. Financial Stability Report 2013/2014.*

7 *Czech Statistical Office, Macroeconomics, household gross adjusted disposable income, 20 February 2015.*

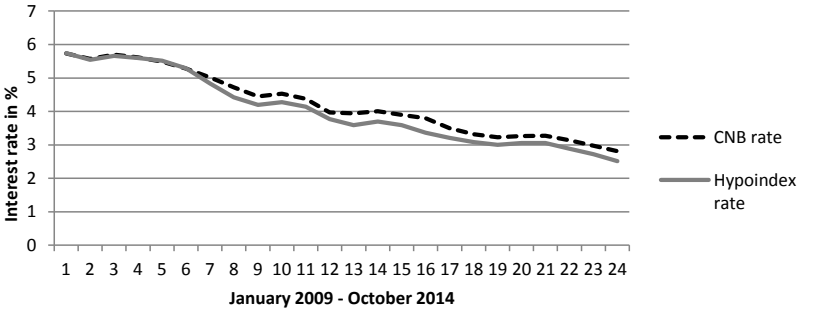
8 *Czech National Bank. 2015. Interest rates for CZK loans provided by banks to households – new loans (%).*

9 *Fincentrum. 2015. Hypoindex.cz.*

10 *The guided interviews suggest that mainly Komerční banka, a.s. and Hypoteční banka, a.s. have a more significant share of household mortgage loans with LTV at 100%.*

assigning the respective ratings. However, we can generally confirm that a sharp interest rate increase may particularly affect low-income households. This fact is also corroborated by the Czech National Bank, as it included household stress tests in its regular Financial Stability Reports for the Czech Republic. For the purpose of basic understanding, we can mention a model example verified within the research – with an interest rate increase from 2.39% to 6% for a loan amounting to CZK 2 million with a 20-year maturity. In this case, a monthly payment would increase by up to CZK 4 thousand. The difference could pose a major threat to low-income households (this risk would be considerably higher if the real interest rate increase is not associated with an increase in real income).

Figure 2: Development of mortgage loan interest rates in the Czech Republic



Source: Own chart based on data received from the CNB and Fincentrum

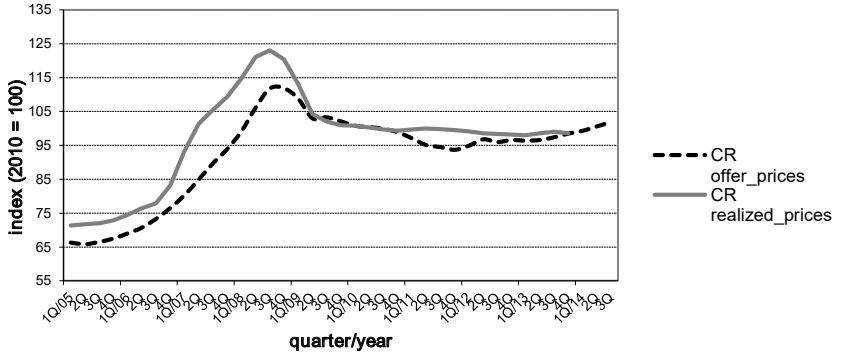
4.2 Risk of the Collateral Value Development

We believe one of the most significant risks for banks identified in the course of the research is the risk of declining property value. Collateral in the form of real estate serves as the basic security in terms of the provided mortgage loans. Historical development of property values (apartments, houses, land) has documented that the value of such security may in fact fluctuate. Client's default may actually result in a situation, where the proceeds generated from a sale of the given property may be insufficient to cover the client's debt to a bank.

Post-2008 experience in the United States as well as adverse effects of the declining collateral values in Ireland and Spain corroborate the fundamental importance of the collateral value in the area of credit risk. Property values in the Czech Republic also came down after 2008. The data of the Czech Statistical Office are used as the primary information source for the verification of the situation and risks prevailing in the Czech Republic. In order to update data and verify information presented earlier, trend curve analysis for the bid prices as well as the actual selling prices of apartments in the Czech Republic was used in the course of the presented research. The basic information about the development of apartment prices is presented in Figure no. 3 below. Another benchmark analysis was carried out in the area of price development for individual regions. No significant overvaluation of apartments, houses, or land is identified for any of the regions of the Czech Republic.

In order to assess the situation in the area of price/real-estate market development, with potential imp act on credit risk, the so-called financial ratios are normally used. The ratio of property price to rent amount (P/R, price to rent) or of property price to income (P/I, price to income) may be used for detailed analyses. "An increase in the P/R ratio may indicate overvaluation of property prices. However, the said indicator does not take into account interest rates that are associated with availability of loan financing."[11] The said parameter is not applied in the course of the verification. The reason for this is the situation currently prevailing in the Czech Republic. Low interest rates and positive approach of individual banks offer the most beneficial conditions to debtors. Application of the P/I ratio may bring more accurate information. However, this information may be distorted by different income level within individual regions of the Czech Republic. Overall, it is safe to state that a detailed analysis of such data does not currently have any significant benefits for the credit risk assessment. Moreover, having performed the analyses, we can say that the development in the area of property prices does not currently indicate the formation of the so-called bubbles.

Figure 3: Development of apartment prices in the Czech Republic in the period of 2010 - 2014 (index, 2010 = 100)



Source: Czech Statistical Office

Developments in some other countries corroborate the effectiveness of direct measures, with impact on property prices stabilization, etc. The trend towards applying regulatory restrictions related to the LTV indicator can recently be observed in developing economies in particular. However, this practice has been more and more common in OECD countries as well. For example, Canada, Sweden, and Israel have all applied some form of restrictions relating to the LTV indicator in the past. International experience confirms that restrictions relating to the aforementioned indicator slow down the real increase in loans and property prices during booms. Furthermore, definition of such limits increases banks' stability by increased stability and resistance of debtors. Several studies have confirmed that the application of stringent standards in the area of LTV reduces households' sensitiveness with regard to price shocks (BIS, CGFS, 2012). Canada has been an example of successful application of regulatory measures (Brunnermeier, 2009). The practice in Sweden is

11 Komárek, L.; Kubicová, I. (2011), p. 164.

often presented as well. In the course of the research, the practice from New Zealand, Hong-Kong, South Korea, Singapore, Israel, and Norway has been verified. It would also be worthwhile to verify the situation in Hungary as well as the initial results of the current regulation introduction in Poland and Slovakia.

5 Internal Risks

The performed empirical research has identified risks that are referred to as internal risks for the purpose of further examination. These risks arise from internal actions and own decisions of individual banks. In general, these risks should be controllable via internal bank processes. In case of insufficient management of such risks, incorrect decisions may significantly affect the stability and results of the given financial institution. The basic indications corroborating the existence of the said risks came from the feedback during the questionnaire survey in 2013 - 2014. For the purpose of verifying and validating the actual threat of such risks, the risks are classified within 3 subgroups in the course of the research, specifically the revenue factor, the competition factor, and the distribution factor. According to the performed survey, the said aspects affect individual banks' credit risk development in the area of mortgage loans in the Czech Republic. The projection of internal factors within credit risk is carried out via the conduct of relevant managers and applied business strategies. Until the end of 2014, the area of the aforementioned internal factors had not been discussed much publicly. The information sources identified earlier within the research only contain comments on the risk mainly generated from the area of insurance intermediation. In terms of the presented research outputs, the given risks can definitely be described as significant.

5.1 Revenue Factor

"During good periods, financial institutions and clients may start underestimating various risks associated with their economic decisions, or – as a result of higher competition – may even be exposed to strong stimuli, thereby increasing the scope of assumed risk."[12] The basic factor that is currently taking effect in the area of internal risks is the revenue factor. Economic results of financial institutions confirm the findings from the questionnaire surveys and guided interviews. The identified assertions may be accepted, taking into account the fact that the results of the largest financial institutions have recently put potential pressure on the relevant managers in terms of compensating the reduction of operating revenue and generated profit. The amount and trend of revenue generated by the relevant organizational units are significantly reflected in the remuneration of the respective managers. Therefore, one of the leading motivational factors is the revenue increase. This factor is further affected by increase in client deposits with the selected and examined banks, with the valuation of such deposits recently being considerably affected by low price of funds on the financial market.[13] Moreover, we can corroborate the initial claim of managers in terms of expecting sharp decline in the cost of risk. Such decline may also lead to the so-called moral hazard. In spite of the positive impact of lower costs

12 Frait, J.; Komarkova, Z. (2011), p. 98.

13 See the discount rate and the 2W repo rate at 0.05% (source: CNB).

on adjustments, the reduced cost of risk may generate higher pressure on managers, consequently resulting in lower providence in assuming risks when providing loans to selected client segments. To ensure better understanding, Table no. 1 shows year-to-year comparison of performance for the largest banks in the Czech Republic. The performance comparison primarily comprises the period of 2012 and 2013, when the survey took place. Even with extraordinary items considered, with effect on economic results, the presented data may be accepted for reference assessment of bank managers' claims, which followed the overall results of individual banks reported at the time. The data were collected from the presentation of results and annual reports of Česká spořitelna (ČS), Československá obchodní banka (ČSOB) , and Komerční banka (KB).[14] Only the basic indicators are shown for the purpose of uniform comparison of available parameters. The information relating to the development of loans is shown as an aggregate for all market segments. No separate analysis of mortgage loans for the household sector is performed. According to information received from the respondents/managers, the reason for this consists in an effort to compensate the declining interest rate and service margins by increase the number of loans and loan volume, irrespectively of the segment type.

Table 1: Year-to-year comparison of economic indicators (2012/2013)

	ČS	ČSOB	KB
Net operating revenue	-5%	-6.30%	-3.20%
Operating costs	-4%	-3.50%	-2.50%
Gross operating profit/(-)loss	-6.10%	-7.90%	-4%
Cost of risk	-10.10%	-8.60%	-7.10%
Net profit – allocated to shareholders	-6.20%	-11%	-5.60%
Loans to clients (total)	4%	5.70%	4.80%
Clients' deposits	4%	4.90%	12.10%

Source: Own analysis of annual reports by ČS, ČSOB, KB 2012, 2013

5.2 Competition Factor

Another factor identified in the area of mortgage loans and mentioned in the questionnaire survey results is the competition factor. Dynamic development in the activity of new financial institutions has also been recently reflected in the competition in terms of the available housing financing products. Higher competition is one of the factors that significantly affect the interest rate development, as described in Chapter 1.2 hereof.

14 Calculation of basic indicators published according to the International Financial Reporting Standards (IFRS).

Mainly the following banks currently offer mortgage loans in the Czech Republic: Hypoteční banka, Česká spořitelna, Československá obchodní banka, Equa bank, GE Money Bank, Komerční banka, LBBW Bank CZ, mBank, Oberbank AG, Raiffeisenbank, UniCredit Bank CR, Sberbank CZ, FIO banka, and Wüstenrot hypoteční banka. The latest data available confirm that Hypoteční banka had the largest market share in terms of the Czech mortgage loan market in 2014, followed by Česká spořitelna and Komerční banka[15]. Higher competition translates into higher pressure on individual banks and relevant managers in the area of profitability. Arrival of small banks also forces large banks to implement marketing campaign with special offers and promotions (loans with no fees and reduced interest rates). Further pressure in the area of interest rates and fees may be anticipated in connection with the planned offer by Air Bank and ZUNO bank.

5.3 Distribution Factor

The last internal factor is the distribution factor. Originally, the primary distribution channel comprised loans offered and negotiated via financial institutions' own distribution networks. In this case, fundamental risks associated with the offering method as well as the credit risk assessment are under full control of the given institution (in this case, the institution is in full control when it comes to distribution costs).

The situation is different for commission-based sales via third-party intermediaries. Each transaction is subject to remuneration in this case, whereas the commission structure must consider two requirements. "On the one hand, it is necessary to set down such terms and conditions that the expected margin generated by the acquired transaction covers the cost of the commission paid. On the other hand, however, it is necessary to properly motivate dealers, whose actions are strongly determined by economic stimuli."[16] The influence of such third-party financial intermediaries continues to increase. There are currently several groups of these advisors operating in the market. The empirical research has confirmed the influence and significance of such entities. Managers of approached banks confirm considerable relations with such entities. Commissions are paid out for arranging individual deals. Such commissions may amount up to 1.5% of the mortgage loan volume (and exceptionally even 1.8%) for the most prominent entities. At the same time, there are certain maximum limits to such commissions; however, these limits are usually relatively high, often up to CZK 100 thousand.

The share of transactions carried out via such third-party intermediaries varies for individual banks. Česká spořitelna has a relatively good position in terms of the so-called primary production, due to its history of service to individual clients. However, it also actively cooperates with intermediaries. The guided interviews have revealed that the current share of deals acquired via external networks amounts up to 70% of all provided mortgage loans for some banks[17]. Once again, the payment of commissions in the area of mortgage loans significantly affects profitability and credit risk. Credit risk of such transac-

15 Data on mortgage loan market shares are published in annual reports of ČS, ČSOB, and KB.

16 Vlachý, J. (2010), p. 65.

17 50%+ share of intermediated mortgage loans to individuals (new and refinanced loans) were reported by mangers of Hypoteční banka, Komerční banka, UniCredit Bank CR, and Raiffeisenbank.

tions is assessed as higher, because the financing/information collection process partially takes place outside of the bank. However, all banks aim to mitigate such risks via their internal verification processes. It has been confirmed during the interviews that all inquired managers perceive the higher risk level for such intermediated loans.

For the purpose of verifying the importance of this factor, the primary production of selected intermediaries has been identified. The companies OVB, Swiss Life, Partners, ZPF, Fincentrum, and Broker Consulting are affiliated within the Union of Financial Intermediary and Consulting Companies (USF) and the Association of Financial Intermediaries (AFIZ). The performance of these companies amounted to CZK 10.8 bn. in terms of the intermediated loan volume in 4th quarter of 2013[18]. Another group comprises the companies EUROHYPOTÉKA, Bonnet.cz, FINEO Group, GEPARD FINANCE, HYPOASISTENT, M&M reality holding, OPEN FINANCE and BROKER TRUST. These companies are affiliated within the Association of Mortgage Loan Brokers (AHM). The performance of the Association amounted to CZK 35 bn. in terms of the intermediated loan volume in 2013[19]. In addition to the aforementioned entities, Fincentrum is also important. According to company information, the volume of loans intermediated by the company amounted to CZK 10.3 bn. in 2013[20].

Another important activity of the aforementioned entities is their activity in the area of mortgage loan refinancing by other banks, for the purpose of ensuring the most beneficial conditions for their clients. Accurate data have not been available so far in the Czech Republic. However, the data published since 2014 suggest that less 50% of all new housing loans are truly new. The rest of these loans are re-fixed[21] and refinanced loans.

6 Recommendations of the Czech National Bank

Following the completion of the presented research, the Czech National Bank published its recommendations within the Financial Stability Report 2014/2015; these recommendations focus on limiting credit risks in the area of mortgage risks. The recommendations confirm the risks identified and strongly correspond to the results of the research that has been carried out since 2013, independently of any activities of the Czech National Bank.

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18 Association of Financial Intermediaries. 2014. Production of AFIZ and USF ČR members in 4Q 2013. [access: 2014-12-07]. Available at: http://www.afiz.cz/produkce-clenu-afiz-a-usf-cr-4-q-2013/.

19 Association of Mortgage Loan Brokers. 2014. Members of the Association of Mortgage Loan Brokers arranged mortgage loans valued at record-high 35 billion Czech crowns in 2013 [access: 2014-12-07]. Available at: http://www.ahmcr.cz/aktuality-a-clanky/item/21-clenove-ahm-zprostredkovali-hypoteky-za-35-mld-kc.

20 Fincentrum. 2014. Fincentrum increased its turnover by 13% to CZK 1.375 bn. in 2013 [access: 2014-12-07]. Available at: http://www.fincentrum.com/pro-media/detail/437/Fincentrum-zvysilo-v-roce-2013-obrat-o-13-na-1-375-miliardy-Kc.

21 Re-fixed loans refer to loans, where clients change their bank upon the expiration (fixation) of the originally agreed interest rate.

The current recommendations of the Czech National Bank comprise the following basic points, with ties to the presented research outputs. Recommendation A: Share of newly provided loans with an LTV of more than 90% should not exceed 10% of the total amount of such loans provided in any given quarter; maximum LTV ratio should not exceed 100%, furthermore, institutions should not circumvent this recommendations through the concurrent provision of unsecured consumer loans. From the perspective of the performed research, the recommendation corroborates the treatment of potential risks with regard to the development of property prices. Recommendation B: Banks should cautiously assess client's data in terms of their ability to service loans from their own funds and withstand increased stress – e.g. by setting limits on the LTI (Loan to Income)[22] or DSTI (Debt-Service-to-Income) ratio[23]. This point may be put into context with the identified risk of future interest rate fluctuations. In case of interest rate increase, the interest rate will increase upon the new fixation, with subsequent increase in the loan payment. This increase may pose a threat to the so-called low-income households. Recommendation E: Banks should apply prudent approach to loans provided in cooperation with loan intermediaries. These loans should be monitored separately. The aforementioned recommendation follows up on the identified internal risk factor of distribution.

Conclusions

The research has confirmed the defined hypotheses that follow up on the performed questionnaire surveys and guided interviews. The identified risks in the area of mortgage loans have been corroborated through examination. Based on the performed research, the materiality of these risks can be particularly confirmed in the area of future development of interest rates, provided an interest rate increase is not coupled with an increase in household income. Mortgage loan interest rates offered to individuals were at all-time lows at the time the research was completed. One area, where the research has not proven the risk so far, is the property value development. The current stabilization of property prices, slight increase in developers' new activity and construction indicate that – with the exception of specific locations – property prices will not significantly decline. These assertions rely on various data available from the Czech Statistical Office and the Czech National Bank. According to the basic research results, the stabilization of the property prices will also be affected by the expected restriction imposed on the mortgage loan availability for clients with no own funds. One area, where credit risk has been confirmed, is the area of internal risk relating to the distribution factor. In addition to the aforementioned recommendation of the Czech National Bank, the risk is also indirectly verified by the fact that the given area is very likely to be subject to regulation. In compliance with the expected harmonization of consumer protection across the EU, there are indications of intervention with financial intermediaries' activities. There are currently reports of potential regulation relating to the payment of commissions and particularly to the certification of such intermediaries. Based on other results of the research, it is safe to assume that these measures will also have a positive effect on the area of credit risk.

22 LTI ratio (Loan-to-Income) indicates the ratio of the loan amount to the loan applicant's income.

23 DSTI ratio (Debt-Service-to-Income) indicates the debt services to the loan applicant's income.

The research largely verifies the defined hypotheses and potential basic risks in the area of mortgage loan funding to the household sector in the Czech Republic. The research results do not represent accurate empirical analysis. The basic output is the confirmation that it is a significant source of risk in the area of mortgage loans. We can state that no sufficient data are currently available in the Czech Republic that would allow more accurate empirical/econometric analysis of the risk. This is why alternative approach has been selected.

Moreover, some areas have been identified that would deserve additional attention. Mainly the verification of further dynamic development of competition and the application of the Basel III rules seem to be the significant ones. It is safe to state that, to verify other risks, it would be beneficial to perform detailed comparison/analysis for the household debt development trend and the trend for the nominal interest rate development in connection with the household disposable income development using various ratios. The results of such analyses could probably be used to indicate potential risks in the area of mortgage loans for the household sector. It is also beneficial to perform further investigation in the area of potential effects concerning the regulation of the mortgage loan provision in connection with the clients' own funds. Another suitable direction for continued research could be a more detailed verification of effects of loan restrictions in connection with the LTV parameter under mortgage loan financing in countries where such regulation had taken place in the past.

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