IN FIERCE COMPETITION: ANALYSIS OF THE PROFITABILITY OF THE HUNGARIAN BANKING SECTOR

Ádám Szentpéteri – András Becsei – Zsolt Dányi – Attila Bógyi

ABSTRACT

The article was inspired by two factors. On the one hand, a study published by the World Economic Forum on 26 September 2017.[1] According to this article, the competitiveness of the Hungarian economy has improved. Currently, Hungary is ranked 60th out of the 137 countries surveyed. Regarding the development of the financial markets, Hungary is ranked 45th, which is a better position than based on the composite index. The development of Hungarian markets equals the average of North American and European markets. Hungarian financial institutions increase rather than decrease Hungary's competitiveness. On the other hand, the everyday operation of banks is contrary to the opinion about low-level competition, high credit spreads and low cost effectiveness. According to our article, in the case of 500 housing loan products offered by 77 financial institutions, non-intense competition among banks would be impossible based on game theory. The two-faced judgement of the mortgage market was revealed in March 2017. In that month, the Hungarian Parliament passed the tightening of Act LIII of 1994 on Judicial Enforcement, pursuant to which the deadline of foreclosure proceedings was extended to almost 4 years in several country settlements. In the case of the enforcement of claims based on a consumer contract, no valid bid for the purchase of the debtors' residential property can be made under 100% of the valuation. After two failed auctions, more than 1 year shall be waited until the decrease of the starting price to 90% of the valuation, which still considerably exceeds market prices in less developed regions, quasi making the enforcement of the mortgage claim impossible. At the same time, the credit spreads of the Hungarian banking sector were criticised the most in that month. The aforementioned contradictions inspired us to write our study.

JEL codes: G21, G28

Keywords: profitability of banks, operational efficiency, banking regulation, mortgage lending, housing loan spreads

1 World Economic Forum: The Global Competitiveness Index 2017-2018 edition: http://reports.weforum.org/ global-competitiveness-index-2017-2018/countryeconomy-profiles/#economy=HUN

1. PROFITABILITY OF THE HUNGARIAN CREDIT INSTITUTION SECTOR

1.1. What are thirty-three?[2]

It is not easy to judge the profitability and efficiency of the credit institution sector owing to data problems. In international comparisons, mostly the data series in accordance with the International Financial Reporting Standards (hereinafter referred to as IFRS) available in the data repository of the European Central Bank (hereinafter referred to as ECB) is mentioned. This data series includes the basic data of the banking system of all EU member states. The drawback of these statistics is that the financial indicators are consolidated, which means that the foreign subsidiaries of the banks from the member states are included, as well. Consequently, Hungarian statistics also include the data of OTP Group's foreign subsidiaries. Obviously, the performance of OTP's Bulgarian, Russian or Ukrainian subsidiaries does not reveal too much about the performance of the Hungarian banking system. The degree of distortion depends on the foreign exposure of the banks of the country concerned. Regarding the Central and Eastern European region, distortion is especially significant in Hungary, as OTP Group, the biggest player of the Hungarian banking system, has significant interests in eight countries outside Hungary, which constitute 40% of the group (based on total assets). By contrast, in the Czech Republic, a considerable part of the banking system (including the five largest banks giving more than ¾ of the outstanding loans) belongs to foreign bank groups. On the other hand, Czech banks do not have significant interests abroad. Later, we examined the degree of distortion, the use of consolidated indicators causes in the domestic net interest margin and the operating cost to assets ratio.

In addition to consolidated IFRS reports, the other data source consists of the individual reports prepared by the banks in accordance with the Hungarian Accounting Standards (hereinafter referred to as HAS) published by the National Bank of Hungary (hereinafter referred to as MNB).[3] The drawback of such reports

2 *István* Örkény: In his one minute short story entitled *Production Is Going on Uninterrupted:* "Hallo, is it the machine room?" "Skultéti speaking!" "How many, Skultéti?" "Thirty-three." "What are thirty-three?" "What do you mean by how many, First Engineer?" "Are they not supposed to be thirty-three?" "No problem, go on working, Skultéti!".

3 The aforementioned reports have been available since 2005. The profit after tax of the sector between 2005 and 2009 was not available. The Supervisory Income Statement included only the profit before tax. For the aforementioned period, the corporate tax liability of credit institutions was estimated on the basis of the corporate tax rate of 16%, therefore the estimated profit after tax makes up 84% of the pre-tax data. Since 2017, some players in the sector have provided IFRS data, while some credit institutions continue submitting their reports in accordance with HAS. Consequently, the current mixed data provision makes the analysis of statistics more difficult. Due to the complete transition to IFRS, the data quality is expected to improve.

is that the discrepancies of local accounting standards damage the comparability of data. Moreover, the reports contain duplicated data in the case of banks belonging to the same group. Despite the deficiencies above, in the case of the Hungarian banking sector with significant exposures abroad, we believe that the most reliable data sources for analysis are the statistics in accordance with HAS. Our assumption is supported by the fact that, regarding interest margins and the indicators of operational efficiency, the values we receive by filtering out the effect of OTP's foreign subsidiaries from IFRS statistics by means of OTP's earnings reports are very similar to the HAS data.

Another important methodological improvement is adjusting profitability figures with dividend income. Such figures reflect the efficiency of foreign subsidiaries or are from outside the financial sector. If they refer to the dividend paid by domestic financial institutions to each other, they lead to duplication in the HAS statistics. Chart 1 shows the annual earnings of domestic credit institutions in accordance with HAS, adjusted by dividends.

Chart 1
Profitability of the Hungarian credit institution sector between 2005 and 2016

HUF Bn	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Profit after tax	352	377	352	263	259	7	–289	–174	31	–541	–29	443
Dividend income	23	28	50	164	67	69	90	56	60	59	78	103
Profit after tax excl. dividend income	**329**	**348**	**302**	**99**	**192**	**–62**	**–379**	**–229**	**–29**	**–600**	**–107**	**340**

Source: own calculation based on the data of the MNB (Supervisory Balance Sheet and Supervisory Income Statement 2005–2016)

1.2. The profitability of the Hungarian banking sector is low

1.2.1. Cost of equity approach

The owners of a profit-oriented business invest their capital into the business in order to generate profit. As investors can usually choose from several investment types, they are ready to invest into a business only when the expected return to risk ratio reaches the level of alternative investments. As the profitability of the banking sector is very sensitive to the state of the economy, owners expect compensation for taking risks. The return expectations of the owners are called *expected return* or *cost of equity*, while the profit above is called *economic profit*.

The expected return was estimated on the basis of the capital asset pricing model (the English acronym: CAPM), which explains cost of equity risk-free return, the risk of a given investment and the risk premium/risk unit expected by the investors.[4] As a formula:

cost of equity = risk-free rate + relative riskiness of the industry × market risk premium,
or with symbols used in professional literature:

$COE = r_f + ß \times MRP$.

It is important to mention that MNB published its expectations related to the ideal banking sector in March 2014. Regarding the return of the banking system, these expectations set a 10-12% target range (source: *Nagy–Vonnák*, 2014). The 10–12% target range has been a recurring element of the central bank's communication since 2014 (e.g. *Palotai*, 2016). This range basically corresponds to the calculated expected return for the period.

Chart 2
The profitability of credit institutions compared with the expected return

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Profit after tax excl. dividend income	329	348	302	99	192	–62	–379	–229	–29	–600	–107	340
Average total equity (HUF Bn)	1 489	1 804	2 110	2 388	2 660	2 781	2 769	2 851	3 010	3 023	2 909	3 240
ROE (Return on equity)	22,1%	19,3%	14,3%	4,1%	7,2%	–2,2%	–13,7%	–8,0%	–1,0%	–19,9%	–3,7%	10,5%
COE (Cost of equity)	13,1%	13,7%	13,7%	15,5%	14,4%	12,0%	14,0%	14,6%	11,6%	9,8%	8,7%	8,3%
rf (1yr gov. bond yield)	6,8%	7,3%	7,4%	9,0%	8,6%	5,5%	6,2%	7,0%	4,1%	2,3%	1,2%	0,8%
MRP (Market risk premium)	4,8%	4,9%	4,8%	5,0%	4,5%	5,0%	6,0%	5,8%	5,8%	5,8%	5,8%	5,8%
ß (béta)	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3
Cost of equity (HUF Bn)	195	248	288	371	383	335	387	415	351	297	253	269
Economic profit (HUF Bn)	**135**	**101**	**14**	**–272**	**–191**	**–397**	**–765**	**–644**	**–380**	**–897**	**–360**	**70**

Source: own calculation based on the data of the MNB (Supervisory Balance Sheet and Supervisory Income Statement 2005-2016), the data of the National Debt Office (reference yields) and the data of damodaran.com (MRP)

4 The detailed background of the methodology can be found in the standard literature taught in the framework of Hungarian and international financial courses, see Brealey-Myers: Principles of Corporate Finance (Panem Kft., 2011) and Damodaran: Investment Valuation (Panem Kft., 2006).

As Chart 2 indicates the economic profit of credit institutions was moderately positive until 2007. In absolute terms, return on equity was high in this period (~15–20%), however, the high interest environment (inflation was 4-8%, whereas the yield of 1-year government bonds was 7–8% in the examined period) kept the expected return at a high level.

Between 2008 and 2015, the total profit of the sector adjusted with dividend income was HUF 3,907 billion less than the cost of equity expected by the market, which exceeded the total amount of the equity of credit institutions (HUF 3,590 billion) at the end of 2016. In this period, the sector was not able to cover the cost of equity, and needed a large amount of capital injection. As opposed to several other developed countries, the capital increases had to be covered by the owners of foreign parent banks instead of the taxpayers. In 2008–2009, foreign parent banks increased capital by HUF 100 billion. Between 2010 and 2015, a capital injection of HUF 1,500 billion was required. In these years, the annual average of capital increases amounts to nearly 1% of the Hungarian GDP. The capital increases conducted by the five largest subsidiaries are summarised in *Chart 3*.

Chart 3
Capital increases and debt remissions conducted by foreign parent banks

HUF Bn	2008	2009	2010	2011	2012	2013	2014	2015	Összesen
MKB	0	26	20	70	127	156	171	0	571
Capital increase	0	26	20	70	127	36	80	0	360
Debt relief	0	0	0	0	0	120	91	0	210
CIB	15	42	0	40	102	110	67	0	376
Erste	0	8	0	180	39	0	95	0	322
Raiffeisen	0	0	14	106	0	38	97	44	298
K&H	0	7	0	67	0	0	0	0	75
Total	**15**	**84**	**34**	**463**	**268**	**304**	**430**	**44**	**1 642**

Source: own collection based on the annual reports and statements of MKB, CIB, Erste, Raiffeisen banks and K&H Bank

Although the accounting profit exceeded the expected return again in 2016, it was due to important non-recurring items, as we will explain later. At the same time, the normalised return still did not reach the cost of equity.

The lack of significant advance in the consolidation of the sector could be partly explained by low profitability. Although several businesses or portfolios were sold, the sale of whole banks or the permanent withdrawal of individual players occurred only on a few occasions. Even such banks were sold well below the book value. In 2010, FHB Bank purchased Allianz Bank at 0.6 P/BV. In 2013, Magnet Bank acquired Banco Popolare at 0.03 P/BV, while Bayerische Landesbank sold MKB to the Hungarian state at 0.1 P/BV.[5] The only exception with outstanding profitability was Budapest Bank. It is worth mentioning Poland, where numerous transactions have taken place since the crisis, typically at a P/BV between 1-3, as a positive example for the consolidation of the banking system. The reason for the significant number of transactions might be the profitability of the Polish banking sector, which operated solidly over 10%, as well as the more effective market mechanisms and the more predictable regulatory framework.

1.2.2. Regional comparison

If the profitability of the Hungarian credit institution sector is compared with those in other members states of the European Union (see *Charts 4-5*), it is visible that the Hungarian banks have been at the bottom of the ranking in the EU since 2010. In 2014, at the time of provisioning for the settlement of foreign currency loans, Hungary had the worst rate of return among the 28 member states.[6] Regarding the EU member states, it is also unique that the Hungarian banking sector was loss-making every year between 2010 and 2015 (adjusted with dividend income, the loss amounted to HUF –1,406 billion). In the examined period, even Cyprus and Slovenia, two countries struggling with serious problems, had a profitable year. The other three countries belonging to the Visegrád Group (the Czech Republic, Slovakia, Poland) has a stable return on equity of about 10 %. Other Central and Eastern European countries, such as Bulgaria, Croatia and Romania, also outperformed Hungary. Aside from some worse periods, they had a return on equity of about 5–10%.

5 P/BV: the ratio of the purchase price (Price) and the book value (Book Value).

6 Regarding the other countries, the ECB's database as well as data published by the IMF (in the case of missing data, e.g. about Croatia between 2006 and 2012) were used. However, we would like to emphasise that distortions similar to those in Hungary might occur in other countries, as well. Especially in the case of countries which have a major multinational bank group, e.g. Austria, Italy or France. As we mentioned in the article, Hungary is special in the region in the sense that OTP, its largest bank, is present in 8 foreign countries. Foreign operation constitutes more than 40% of OTP Group.

Chart 4
Average return on equity of the credit institution system in EU member states

	ROE										
	2006	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Austria	22,5%	16,4%	1,7%	2,8%	6,1%	1,4%	4,1%	–0,7%	1,1%	7,6%	7,1%
Belgium	23,3%	10,5%	–44,8%	–2,4%	10,5%	1,4%	3,3%	6,2%	7,8%	10,3%	8,9%
Bulgaria	24,1%	18,3%	17,3%	8,3%	6,4%	4,7%	4,7%	4,4%	7,2%	8,0%	11,3%
Croatia	12,7%	10,9%	9,9%	8,8%	8,3%	8,7%	6,1%	0,6%	3,9%	–6,8%	8,9%
Cyprus	14,6%	26,2%	13,6%	10,6%	8,2%	–75,6%	–100,8%	–90,0%	–7,1%	–7,7%	2,1%
Czech Republic	23,5%	18,3%	14,3%	16,7%	14,9%	13,0%	13,7%	11,4%	11,4%	10,3%	11,9%
Denmark	14,3%	13,0%	–3,4%	–3,8%	2,4%	0,6%	2,0%	4,4%	4,7%	6,8%	9,7%
Estonia	24,4%	28,5%	15,6%	–41,3%	3,6%	22,9%	11,7%	10,7%	9,7%	6,8%	11,1%
Finland	14,4%	14,3%	8,4%	7,2%	6,8%	7,6%	8,9%	8,1%	9,1%	8,3%	8,7%
France	19,8%	9,8%	2,9%	4,7%	8,3%	5,6%	3,4%	6,0%	4,4%	6,8%	6,5%
Germany	10,2%	6,5%	–9,8%	–2,2%	1,9%	2,2%	1,1%	1,3%	2,5%	1,7%	2,2%
Greece	16,4%	21,2%	10,5%	2,2%	–4,4%	n.a.	n.a.	n.a.	–10,6%	–24,2%	–7,5%
Hungary	**19,3%**	**14,3%**	**4,1%**	**7,2%**	**–2,2%**	**–13,7%**	**–8,0%**	**–1,0%**	**–19,9%**	**–3,7%**	**10,5%**
Ireland	14,6%	12,8%	0,4%	–36,1%	–65,2%	–11,1%	–14,6%	–13,2%	8,5%	6,8%	6,3%
Italy	16,8%	9,2%	4,9%	4,0%	3,7%	–13,0%	–1,0%	–11,5%	–2,8%	3,1%	–7,7%
Latvia	26,4%	25,6%	3,1%	–44,3%	–19,7%	4,5%	4,9%	8,8%	10,2%	10,7%	14,3%
Lithuania	22,8%	19,9%	11,5%	–56,1%	–3,8%	15,5%	7,8%	8,6%	7,7%	7,5%	11,9%
Luxembourg	18,4%	17,4%	3,5%	8,8%	8,1%	2,7%	7,0%	6,4%	7,2%	7,2%	7,5%
Malta	13,0%	8,4%	–0,5%	11,6%	3,6%	3,2%	4,7%	3,7%	4,4%	6,3%	8,1%
Netherlands	14,6%	13,6%	–12,1%	–0,3%	7,5%	6,0%	4,1%	5,0%	3,3%	7,0%	7,3%
Poland	21,2%	17,7%	14,1%	7,0%	10,0%	12,0%	10,8%	10,0%	9,4%	7,7%	7,5%
Portugal	16,5%	14,1%	3,4%	5,4%	6,7%	–4,2%	–3,3%	–9,3%	–3,5%	0,9%	–5,5%
Romania	23,4%	22,5%	18,9%	6,3%	2,6%	0,2%	–7,1%	0,0%	–15,2%	11,3%	10,6%
Slovakia	22,0%	13,9%	11,4%	5,9%	10,4%	12,0%	9,0%	10,0%	9,2%	9,7%	9,9%
Slovenia	15,0%	11,5%	5,2%	1,1%	–3,1%	–11,1%	–19,4%	–90,2%	–2,5%	3,5%	7,8%
Spain	20,3%	21,3%	12,4%	8,9%	8,5%	0,2%	–24,9%	5,8%	6,7%	6,6%	5,0%
Sweden	20,4%	18,9%	12,1%	5,4%	10,2%	10,6%	11,3%	11,1%	11,8%	11,2%	11,9%
United Kingdom	17,5%	16,1%	–9,7%	0,4%	4,4%	4,2%	1,9%	2,2%	3,8%	3,2%	2,1%

Source: Statistical database of ECB, IMF, MNB

Chart 5
Average return on assets of the credit institution system in EU member states

	ROA										
	2006	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Austria	0,9%	0,8%	0,1%	0,2%	0,5%	0,1%	0,3%	–0,0%	0,1%	0,6%	0,6%
Belgium	0,7%	0,4%	–1,5%	–0,1%	0,5%	0,1%	0,2%	0,4%	0,5%	0,7%	0,6%
Bulgaria	1,8%	1,9%	2,0%	1,1%	0,8%	0,6%	0,6%	0,6%	0,9%	1,0%	1,5%
Croatia	1,5%	1,6%	1,6%	1,2%	1,2%	1,2%	0,9%	0,1%	0,5%	–0,9%	1,2%
Cyprus	0,8%	1,3%	0,9%	0,6%	0,6%	–3,6%	–3,6%	–5,2%	–0,6%	–0,6%	–0,4%
Czech Republic	1,2%	1,3%	1,1%	1,4%	1,3%	1,2%	1,4%	1,1%	1,2%	1,1%	1,2%
Denmark	0,7%	0,5%	–0,1%	–0,2%	0,1%	0,0%	0,1%	0,2%	0,3%	0,4%	0,6%
Estonia	1,7%	1,9%	1,3%	–3,4%	0,4%	3,1%	2,0%	1,8%	1,6%	1,1%	1,5%
Finland	0,9%	1,1%	0,5%	0,4%	0,4%	0,3%	0,3%	0,4%	0,4%	0,5%	0,5%
France	0,6%	0,4%	0,1%	0,2%	0,4%	0,3%	0,2%	0,3%	0,2%	0,4%	0,4%
Germany	0,3%	0,2%	–0,3%	–0,1%	0,1%	0,1%	0,0%	0,1%	0,1%	0,1%	0,1%
Greece	0,9%	1,2%	0,6%	0,1%	–0,3%	n.a.	n.a.	n.a.	–1,0%	–2,8%	–0,9%
Hungary	**1,6%**	**1,2%**	**0,3%**	**0,6%**	**–0,2%**	**–1,1%**	**–0,7%**	**–0,1%**	**–1,9%**	**–0,3%**	**1,0%**
Ireland	0,7%	0,6%	0,0%	–1,7%	–3,1%	–0,6%	–0,9%	–0,9%	0,9%	0,9%	0,9%
Italy	0,8%	0,7%	0,3%	0,3%	0,3%	–0,9%	–0,1%	–0,8%	–0,2%	0,2%	–0,5%
Latvia	1,7%	1,7%	0,2%	–4,0%	–1,7%	0,5%	0,6%	0,9%	1,0%	1,2%	1,5%
Lithuania	1,1%	1,4%	0,8%	–3,9%	–0,3%	1,5%	0,9%	1,0%	0,9%	0,9%	1,0%
Luxembourg	0,7%	0,7%	0,0%	0,4%	0,5%	0,2%	0,5%	0,5%	0,5%	0,6%	0,6%
Malta	1,0%	0,7%	0,2%	1,8%	1,0%	0,8%	1,1%	0,7%	0,7%	0,9%	0,9%
Netherlands	0,5%	0,6%	–0,4%	–0,0%	0,3%	0,3%	0,2%	0,2%	0,2%	0,4%	0,4%
Poland	1,6%	1,8%	1,3%	0,7%	1,0%	1,2%	1,2%	1,1%	1,0%	0,9%	0,8%
Portugal	1,0%	0,9%	0,2%	0,3%	0,4%	–0,2%	–0,3%	–0,7%	–0,2%	0,1%	–0,3%
Romania	1,8%	1,8%	1,7%	0,6%	0,3%	0,1%	–0,6%	0,1%	–1,3%	1,2%	1,1%
Slovakia	1,3%	1,0%	0,8%	0,5%	0,9%	1,2%	1,0%	1,0%	0,9%	0,9%	0,9%
Slovenia	0,9%	0,9%	0,4%	0,1%	–0,2%	–0,8%	–1,5%	–8,0%	–0,3%	0,4%	1,0%
Spain	1,0%	1,0%	0,7%	0,6%	0,5%	–0,0%	–1,4%	0,4%	0,5%	0,5%	0,4%
Sweden	0,7%	0,7%	0,5%	0,2%	0,5%	0,4%	0,5%	0,5%	0,6%	0,6%	0,7%
United Kingdom	0,7%	0,6%	–0,4%	0,0%	0,2%	0,2%	0,1%	0,1%	0,2%	0,2%	0,1%

Source: Statistical database of ECB, IMF, MNB

1.2.3. Profitability outlooks

Between 2010 and 2015, the most significant factors which eroded the profitability were special taxes and measures to save foreign currency loan borrowers. Such factors meant a burden of approximately HUF 1,500 and 1,200 billion for the sector. Between 2010 and 2015, the bank tax levied on the credit institution sector amounted to HUF 136 billion. The transaction duty introduced in 2013 further increased the burden (*Kovács*, 2013) (including the obligation to pay a duty of 208%, banks were obliged to pay HUF 204 billion in 2013, HUF 174 billion in 2014, HUF 172 billion in 2015 and HUF 191 billion in 2016).[7] An amount of HUF 20–25 billion out of the transaction duty derives from free cash withdrawal. The higher duty rate for cash withdrawal (0.6% as opposed to the normal rate of 0.3%) supports the spread of cash-free payment. On the other hand, in the case of free cash withdrawal, the duty cannot fulfil this function. Consequently, it would be necessary to change the regulation on transaction duty, which is also supported by the introduction of the instant transfer system (AZUR). Regarding the measures to save foreign currency loan borrowers, the following two packages resulted in the largest loss: early repayment of foreign currency denominated mortgages at discounted rates (HUF 370 billion) and settlement (HUF 800 billion).

According to the MNB's statistics, adjusting with dividend income, the profit after tax of credit institutions was HUF 340 billion in 2016, which means a return on equity (ROE) of 10.5%. By 2016, the bank tax decreased to HUF 64 billion, improving the outlooks for the sector. If we are interested in the normalised profit of the banking sector in the following years, the 2016 profit should be adjusted with the items below:

- **The reversal of impairment loss** improved the profit of the sector by HUF 109 billion in 2016 (a risk cost rate of +0.6%). Between 2005 and 2015, filtering out the effect of packages to save foreign currency loan borrowers, risk cost rates were between –0.3% and -2.3%, with an average value of –1%. As the development trend of the national economy is expected to be positive, the risk cost rate is optimistically supposed to be –0.75% in the long run. The risk cost rate of –0.75% would result in a risk cost of HUF 128 billion for the sector, therefore the value considered in 2016 was more favourable than the expected average value by HUF 237 billion. The effect of the more favourable rate on the profit after tax is HUF 192 billion.
- After deducting the estimated effect of the transaction duty and the special tax levied on financial organisations, **the financial, other and extraordinary profit** aft taxes amounted to HUF –60 billion in 2016 (HUF 30 billion were due to the positive effect of the VISA sale, while HUF-90 billion were attributable to other items).

7 Regarding the data above, it is worth mentioning that these items differ from budgetary figures, as the latter refer to other players outside the credit institution sector (e.g. financial institutions, the Hungarian State Treasury, the Hungarian Post), as well.

If the profit of HUF 340 billion excluding the dividend income had been adjusted with two unsustainable items above (HUF –192 billion due to risk costs, HUF +60 billion due to financial, other and extraordinary result), the normalised profit after tax would have been HUF 208 billion. In 2016, the average amount of equity (HUF 3,233 billion) meant a ROE of 6.4%, which is lower than the cost of equity of 8–9% expected by the investors in the current interest rate environment, and lower than the return in other countries in the region (profitability in Bulgaria, the Czech Republic, Romania and Slovakia is still 10% or above). Looking ahead, the Hungarian banking sector has to face factors which might deteriorate the earnings, such as the permanently low interest rate environment, the still high taxes to be paid to the state as well as the dynamically rising capital requirements. According to the communication of the central bank, the base rate could remain at the current low level at least until 2019 or even longer. In spite of the fact that the taxes levied on the sector have been cut, they still amount to nearly 1% of the GDP a year. Currently, the favourable budgetary situation allows further tax cuts. The continuous increase of the minimal regulatory capital requirement as well as the uncertainties related to Basel 4, which could increase the capital requirement up to 20%, require an increasingly higher solvency ratio from the banks.

In connection with the assessment of the actual profitability it is worth emphasising that Hungary and in a broader sense the whole region as well as Europe are in a very favourable phase of the economic cycle at the moment. As the financial sector is a procyclic industry, the economic profit produced and saved in such favourable periods should cover the loss or the declining profit in the years of recession.

2. THE COST EFFECTIVENESS AND NET INTEREST MARGIN OF THE DOMESTIC CREDIT INSTITUTION SECTOR

A detailed analysis of the profitability of the credit institution sector would exceed the limits of this article. When examining the profitability of the sector, we focused on why the operational efficiency of Hungarian credit institutions is lower than that of credit institutions in other countries of the region, while banks cover their high costs from unreasonably high interests.

2.1. Interest margin and operational efficiency equalling the same indicators in countries of the Visegrád Group

As it is described in detail in our article, the statement in the paragraph above is mainly based on the improper use of (comparative) data or other methodological problems. If the ECB data of Hungarian credit institutions is adjusted with the

distortive effect of foreign subsidiaries and the exogenous effect of state taxes, the resulting net interest margin of 2.5% and the operating cost to assets ratio of 2.0% are in line with the levels of other bank markets of the region.[8]

As it is often said in computer science, inappropriate data lead to inappropriate results (garbage in, garbage out). As the chapter about the profitability of the credit institution sector already mentioned, the statistics available in the ECB database do not show the real values reflecting the domestic activity of the Hungarian credit institution sector, as

i. they include the foreign subsidiaries of Hungarian banks, as well
ii. furthermore, certain special taxes are listed among operating expenses, though they are not related to cost effectiveness.

In the case of Hungary, the appearance of foreign subsidiaries in the consolidated indicators distorts both the interest to asset and the cost to asset (C/A) indicators. Although the above-mentioned distortion might affect the statistics of other countries, as well, the absence of a regional bank with significant foreign subsidiaries, which is similar to OTP, the distortion arising from the consolidation might be much less significant in these countries.

Based on the earnings report of the OTP Group, the largest player of the Hungarian banking sector, in 2016, the consolidated net interest margin of OTP Group was higher by 1.4%, while its cost/assets ratio was by 0.6% points higher than the figures of the core members of OTP Group operating in Hungary (source: OTP Analyst table). The reason for this is that the net interest margin of OTP's Russian subsidiary, which mainly provides consumer loans, was 17.8%, while the cost/assets ratio was 8.6% in 2016. It would be a mistake to claim that the Hungarian banking system operates with a high interest and cost level.

Chart 6
The net interest margin and cost/assets ratio of OTP Core (the Hungarian members of the group) and the whole OTP Group

	OTP Core		OTP Csoport	
	2015	2016	2015	2016
Total assets (HUF Bn)	6 774	7 247	10 719	11 308
Total assets (EUR Bn)	22	23	34	36
NIM (Net interest margin)	3,62%	3,44%	5,11%	4,78%
C/A (Cost to assets ratio)	-2,83%	-3,08%	-3,62%	-3,67%

Source: OTP Analyst table

8 The adjusted values are in accordance with the figures calculated on the basis of the Hungarian Accounting Standards.

If we are interested in the performance of the credit institutions in Hungary, the foreign operations of OTP should not be taken into account. If the effect above is taken into consideration and the calculations are based on the figures of OTP Core instead of those of OTP Group, the net interest margin of the credit institution sector will be 2.5%, while the cost/assets ratio will be 2.9%. The latter item still contains distorting factors, as the banks recognise the bank tax and the transaction duty as operating costs in accordance with IFRS. If the operating costs are adjusted with HUF 245 billion related to the tax year 2016, the result of the abovementioned factors, the C/A ration will be 2.0% (see *Chart 7*).

Chart 7
The adjusted interest and cost indicators of 2016, in international comparison

	IFRS consolidated data	Adjusted with OTP	Adjusted with OTP and special taxes	V4 (Visegrád Four) excl. Hungary	Bulgaria	Romania
NIM (Net interest margin)	3,1%	2,5%	2,5%	2,5%	3,2%	2,8%
C/A (Cost to assets ratio)	–3,1%	–2,9%	–2,0%	–2,0%	–2,0%	–2,6%

Source: own chart on the basis of ECB's statistical database, the data of MNB and the analyst table of OTP

On the whole, it can be stated that, following the adjustments above, the net interest margin is 2.5%, while the operating expense to assets ratio is 2.0% regarding the Hungarian credit institution sector. Such figures are not considered to be high on regional level. Countries belonging to the Visegrád Group and Bulgaria have similar, while, Romania has worse cost effectiveness. Moreover, the banking sectors of the latter two countries have a higher net interest margin.

The data above are supported by the figures calculated on the basis of the balance sheets and income statements of credit institutions in accordance with the Hungarian Accounting Standards. In 2016, based on the statistics of MNB, the net interest margin is 2.5%, while the operating cost to assets ratio is 2.1%. These figures are in line with the adjusted IFRS values. The time series of the HAS values is also in line with the regional indicators (net interest margin: *Chart 8*, operating cost to assets ratio: *Chart 9*).

Chart 8
The net interest margin of the credit institution sector in EU member states

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Austria	1,6%	1,7%	1,6%	1,7%	1,8%	1,8%	1,7%	1,7%	1,8%	1,7%	1,5%
Belgium	0,9%	0,8%	1,0%	1,3%	1,2%	1,2%	1,3%	1,4%	1,5%	1,5%	1,5%
Bulgaria	3,7%	3,7%	4,0%	4,0%	4,0%	3,7%	3,2%	3,0%	3,2%	3,3%	3,2%
Croatia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2,6%	2,7%	2,8%	2,8%
Cyprus	1,8%	1,9%	1,7%	1,6%	1,9%	2,4%	2,3%	2,8%	2,8%	2,7%	2,5%
Czech Republic	2,4%	2,4%	2,6%	2,8%	2,9%	2,8%	2,6%	2,3%	2,5%	2,8%	2,6%
Denmark	1,0%	1,0%	1,1%	1,4%	1,2%	1,1%	1,1%	1,2%	1,1%	1,1%	1,1%
Estonia	2,3%	2,5%	2,5%	1,9%	1,9%	2,8%	2,1%	2,0%	2,0%	2,0%	2,0%
Finland	1,3%	1,3%	1,2%	1,0%	0,7%	0,6%	0,5%	0,7%	0,6%	0,6%	0,6%
France	0,8%	0,6%	0,7%	1,2%	1,2%	1,2%	1,1%	1,1%	1,0%	1,0%	1,0%
Germany	0,8%	0,8%	0,8%	1,0%	1,0%	1,0%	1,0%	1,1%	1,1%	1,1%	1,1%
Greece	2,6%	2,7%	2,6%	2,5%	2,6%	2,9%	2,1%	2,1%	2,4%	2,1%	2,4%
Hungary	**3,6%**	**3,2%**	**2,7%**	**2,8%**	**3,1%**	**3,0%**	**2,9%**	**3,0%**	**3,0%**	**2,4%**	**2,5%**
Ireland	0,9%	1,0%	0,9%	0,9%	0,7%	0,6%	0,6%	0,7%	1,2%	1,4%	1,4%
Italy	1,8%	1,7%	1,9%	1,8%	1,6%	1,6%	1,5%	1,5%	1,5%	1,4%	1,3%
Latvia	2,3%	2,5%	2,6%	2,0%	1,3%	1,8%	1,7%	1,9%	1,7%	1,8%	1,9%
Lithuania	2,1%	2,1%	2,3%	1,6%	1,5%	1,8%	1,6%	1,6%	1,6%	1,6%	1,6%
Luxembourg	0,5%	0,5%	0,7%	0,7%	0,6%	0,6%	0,6%	0,6%	0,6%	0,7%	0,7%
Malta	1,3%	1,3%	1,2%	1,5%	1,3%	1,5%	1,8%	1,8%	2,1%	2,2%	1,8%
Netherlands	1,1%	1,1%	1,0%	1,1%	1,2%	1,2%	1,2%	1,3%	1,3%	1,3%	1,3%
Poland	3,0%	2,8%	2,8%	2,6%	2,7%	2,7%	2,7%	2,5%	2,5%	2,3%	2,3%
Portugal	1,8%	1,8%	1,9%	1,5%	1,5%	1,6%	1,3%	1,2%	1,3%	1,4%	1,5%
Romania	3,9%	3,4%	3,4%	3,8%	4,2%	3,8%	3,3%	3,2%	3,1%	2,9%	2,8%
Slovakia	2,5%	2,4%	2,5%	3,0%	3,1%	3,2%	3,1%	3,1%	3,0%	2,8%	2,6%
Slovenia	2,2%	2,1%	2,2%	2,0%	2,3%	2,3%	2,1%	1,8%	2,3%	2,2%	2,1%
Spain	1,5%	1,6%	1,6%	2,0%	1,8%	1,7%	1,8%	1,8%	1,8%	1,9%	1,9%
Sweden	1,0%	1,0%	0,9%	1,0%	1,0%	0,9%	1,0%	1,0%	1,0%	1,0%	1,0%
United Kingdom	1,4%	1,2%	1,1%	1,0%	1,0%	0,9%	0,9%	0,9%	0,0%	1,0%	0,8%

Source: Statistical database of ECB, MNB

Chart 9
The cost to assets ratio of the credit institution sector in EU member states

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Austria	–1,6%	–1,6%	–2,2%	–2,0%	–2,1%	–2,3%	–2,2%	–2,5%	–1,6%	–1,6%	–1,7%
Belgium	–1,1%	–1,0%	–1,1%	–1,2%	–1,1%	–1,1%	–1,3%	–1,3%	–1,3%	–1,3%	–1,3%
Bulgaria	–3,1%	–2,5%	–2,7%	–2,7%	–2,6%	–2,6%	–2,4%	–2,3%	–2,3%	–2,3%	–2,0%
Croatia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	–2,0%	–2,2%	–2,2%	–2,3%
Cyprus	–1,2%	–1,3%	–1,2%	–1,2%	–1,3%	–1,5%	–1,6%	–1,8%	–1,4%	–1,5%	–1,7%
Czech Republic	–2,2%	–1,9%	–1,9%	–1,9%	–1,9%	–1,8%	–1,8%	–1,6%	–1,6%	–2,0%	–1,9%
Denmark	–1,0%	–0,9%	–1,0%	–1,1%	–0,9%	–1,0%	–1,0%	–1,0%	–1,0%	–0,9%	–0,9%
Estonia	–1,5%	–1,5%	–1,5%	–1,4%	–1,4%	–1,9%	–1,4%	–1,5%	–1,4%	–1,4%	–1,3%
Finland	–1,1%	–1,0%	–0,8%	–0,8%	–0,7%	–0,5%	–0,6%	–0,6%	–0,6%	–0,7%	–0,7%
France	–1,3%	–1,4%	–1,2%	–1,5%	–1,5%	–1,5%	–1,4%	–1,5%	–1,4%	–1,5%	–1,4%
Germany	–1,1%	–1,1%	–0,9%	–1,1%	–1,1%	–1,1%	–1,2%	–1,3%	–1,3%	–1,4%	–1,4%
Greece	–2,1%	–2,1%	–1,9%	–1,8%	–1,8%	–1,9%	–1,8%	–2,0%	–1,8%	–1,5%	–1,6%
Hungary	**–2,8%**	**–2,6%**	**–2,4%**	**–2,1%**	**–2,1%**	**–2,1%**	**–2,1%**	**–2,2%**	**–2,1%**	**–2,2%**	**–2,1%**
Ireland	–0,7%	–0,7%	–0,5%	–0,5%	–0,5%	–0,5%	–0,7%	–0,7%	–1,2%	–1,3%	–1,5%
Italy	–2,0%	–1,9%	–1,9%	–1,8%	–1,8%	–1,9%	–1,8%	–1,8%	–1,8%	–1,9%	–2,0%
Latvia	–2,0%	–1,9%	–2,1%	–2,0%	–2,0%	–2,0%	–1,8%	–1,9%	–1,7%	–1,7%	–1,9%
Lithuania	–1,6%	–1,5%	–1,5%	–1,5%	–1,5%	–1,4%	–1,4%	–1,5%	–1,5%	–1,3%	–1,2%
Luxembourg	–0,6%	–0,6%	–0,7%	–0,7%	–0,6%	–0,7%	–0,7%	–0,7%	–0,8%	–0,9%	–0,9%
Malta	–0,6%	–0,5%	–0,6%	–0,5%	–0,5%	–0,5%	–0,5%	–0,6%	–0,6%	–0,9%	–0,9%
Netherlands	–1,4%	–1,6%	–1,1%	–1,1%	–1,2%	–1,1%	–1,1%	–1,1%	–1,1%	–1,1%	–1,1%
Poland	–3,1%	–3,0%	–2,7%	–2,7%	–2,5%	–2,4%	–2,3%	–2,2%	–2,1%	–2,2%	–2,1%
Portugal	–1,7%	–1,7%	–1,6%	–1,5%	–1,5%	–1,6%	–1,5%	–1,5%	–1,4%	–1,5%	–1,5%
Romania	–3,7%	–3,3%	–3,3%	–3,2%	–3,0%	–2,9%	–3,1%	–3,0%	–2,9%	–2,8%	–2,6%
Slovakia	–2,1%	–2,0%	–2,0%	–2,2%	–2,1%	–2,0%	–2,0%	–2,0%	–2,0%	–1,8%	–1,9%
Slovenia	–2,2%	–2,0%	–1,8%	–1,7%	–1,7%	–1,8%	–1,9%	–2,0%	–2,0%	–2,0%	–2,0%
Spain	–1,3%	–1,3%	–1,2%	–1,3%	–1,3%	–1,3%	–1,3%	–1,5%	–1,4%	–1,5%	–1,5%
Sweden	–1,0%	–1,0%	–0,8%	–1,0%	–0,9%	–0,8%	–0,9%	–0,9%	–0,9%	–1,0%	–1,0%
United Kingdom	–0,9%	–0,7%	–1,1%	–1,1%	–1,2%	–1,1%	–1,2%	–1,4%	–1,2%	–1,2%	–1,1%

Source: Statistical database of ECB, MNB

The non-consolidated Hungarian data prove that the Hungarian net interest and cost levels are not high in the region. The countries of the Visegrád Group and Slovenia have similar values, while Bulgaria, Croatia and Romania are on a higher level. The operating cost to assets ratio is especially low, considering the fact that, in international comparison, the Hungarian credit institution sector has had to face significantly lower average ticket size and shrinking total assets over the past few years. In addition, a considerable amount of money has been actively invested into digitisation.

- In Hungary, the amount per transaction or average ticket size is considerably lower than in Western Europe or in the wealthier countries belonging to the Visegrád Group. The average ticket size of a mortgage is EUR 17,000 in Hungary, which is 40% of the mortgage in the Czech Republic (EUR 42,000), the third of a Polish (EUR 51,000), 29% of the Slovakian (EUR 59,000) and 8% of the German mortgage (EUR 212,000) (figures from 2015; source: European Mortgage Federation). Unfortunately, the cost level of retail banking (and partly that of corporate banking) depends on the number (instead of the volume) of transactions. Consequently, in spite of the fact that the operating expenses of a housing loan are supposed to be the same in Hungary and Poland, the total assets and the income are three times higher in Poland than in Hungary, provided that the margins are similar.
- Between 2010 and 2016, the outstanding loans of the domestic banking sector decreased by 19% while the amount of outstanding mortgages dropped by 36%. At the same time, the revenues of banks decreased, as well. However, most variable operating expenses do not depend on the amount of existing loans, but rather on the level of business activity and the amount of recently disbursed loans. Due to the recent turn in the area of lending, business activity has been dynamically growing. Among other things, mortgage disbursement has increased by 26% in 2016. On the market of personal loans, the lending volume was 61% larger than in 2015. The dynamically increasing disbursed lending volume and the decreasing/stagnating level of outstanding loans necessarily resulted in higher cost indicators and a lower level of profitability.
- If a sector's profitability fails to reach the expected cost of equity, the owners believe that it is not worth investing anymore. Despite low profitability, the Hungarian banking sector has taken significant effort to invest into digitisation. According to Eurostat statistics, regarding the percentage of those clients who used online banking, Hungary was 24th out of the 28 member states of the EU in 2007 (11% of the clients used online banking, as opposed to 25% in the EU). By 2015, Hungary came up to the 19th place (34% vs 46% in other EU countries). In the short run, digitisation efforts lead to increasing costs.

In view of the above, we believe that the operational efficiency of the Hungarian credit institution system is appropriate. We do not think that further bank branches should be closed in order to improve the level and efficiency of service. Based on international experience, clients need quality service with high added value in bank branches. At Wells Fargo, the largest retail bank of the USA, the branch network, which has been adjusted to the clients' new needs, plays a key role. Wells Fargo is the largest mortgage lender (with 13% market share) in the USA. Based on its total assets, it is the 3rd largest bank of the country. Every 4th American citizen is its client. It has 9000 branches.

As expected, the network of bank branches may undergo a serious change in the future. Basically, this process will not affect the number of branches, but rather their function. The bank branches of the future may become counselling points which play a key role in the financial education of citizens. Furthermore, they may symbolise people's trust in the financial system, in the world of digital banking. At the same time, in line with international trends, it is clearly visible in Hungary that an increasing number of clients turn to channels outside the bank branches, in particular to online channels:

- According to a global survey conducted by CISCO IBSG Global Research in 2012, 65–80% of bill payment, the transfer of savings and bank account management already takes place online.
- However, clients would like to continue using complex services in bank branches. Based on the aforementioned survey, 87–91% of credit requests, professional support requests and securities trading still take place in bank branches.
- Instead of ceasing, the role of branches has only changed. As opposed to transactions, the sale of complex products and counselling are gaining ground.

Moreover, it is important to mention that the number of bank branches has significantly decreased owing to the cost-cutting measures of large banks:

- Based on the collection of portfolio.hu conducted in January 2017, the ten largest Hungarian banks have decreased their branch networks by 25% between 2008 and 2016.
- A considerable increase in the number of branches occurred only at FHB, due to the acquisition of Allianz Bank.
- As far as branch closures are concerned, the subsidiaries of large foreign banks were the most active (Raiffeisen –58%, Sberbank –54%, UniCredit –52%, CIB –46%, Erste –39%).

We believe that the acceleration of closing of branches due to regulatory or other pressure would pose serious risks. For example, taking out a housing loan is a very important long-term decision, therefore it requires circumspection. The lack of professional, personalised risk assessment and customer information may re-

sult in serious individual or even systemic risk problems. In addition, as a result of the country's demographic features, in certain regions, bank branches remain the only places where financial services are accessible, especially to the elderly.

2.2. The effect of the changing regulatory framework on the operation of the banking sector

The changing regulatory framework plays an important role regarding both the operating costs of the banking sector and the pricing of products, as it sets requirements towards financial institutions from several different directions. In many cases, not only the national legislation, but also the legislation of the European Union has a direct effect on the operation of the sector. Due to the increasing effect of the EU legislation, the country's competitiveness can be preserved/strengthened only when the national interests are represented to the greatest extent.

Regarding the EU regulation, we believe that the two most actual topics are digitisation and data protection at the moment.

In the field of data protection, it is essential to exploit the inherent possibilities of the data protection regulation[9] (GDPR) to ensure the competitiveness of the national economy. Compared with Act CXII of 2011 on the Right of Informational Self-Determination and on Freedom of Information (hereinafter referred to as Info Act), the legal claims regulated by GDPR (including titles such as the performance of a contract, legitimate interest) are more flexible and are more tailored to the data management needs related to the activities of financial institutions.

Concerning digitisation, legislators should create a regulatory framework that ensures standardised control over market players as well as the high level protection of client data.

In addition to the above, the tightening of implementing rules has an adverse effect on the operation of the sector, especially in the retail line of business. The increasing demand of the people for loans can only be satisfied with favourable conditions in the case of efficient foreclosure proceedings. However, the amendment of the foreclosure act in the spring of 2017 tightened the rules for foreclosure, turning the foreclosure proceedings more uncertain and time-consuming. If the enforcement of a mortgage is not ensured, the extra risks of the banking system may increase loan interest rates, preventing the further decrease of spreads.

In our view, in addition to the simplification of foreclosure rules, the introduction

9 Regulation (EU) 2016/679 of the European Parliament and of the Council. of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation)

of preliminary wealth assessment and the drastic reduction of foreclosure costs payable by the debtors are needed to satisfy the loan demand of the citizens.

The more predictable and lower special taxes as well as a more vigorous mortgage bond market would also decrease spreads.

3. HOUSING LOAN SPREADS

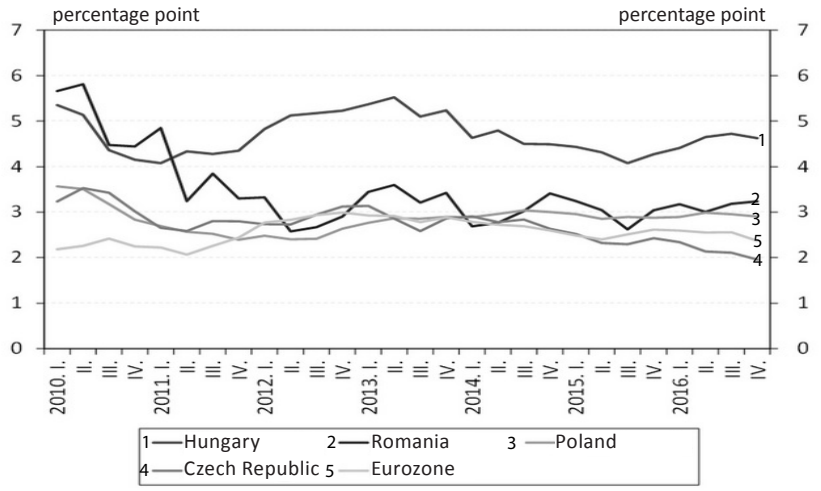
In the final part of the article, we would like to deal with a component of the net interest margin that has provoked perhaps the most heated professional debates recently. As the case of housing loan spreads shows, data cleaning and the use of appropriate methodology are essential for drawing proper conclusions. After choosing the benchmark yields appropriately and considering the actual interest rebates realised by the clients, the actual domestic housing loan spread was 2.6–2.7% at the end of 2016, while it was 2.2–2.5% in the first nine months of 2017. These values are similar to the interest spreads in other countries of the region. Provided that cost effectiveness was the same, the average ticket size of housing loan, which is 60–90% lower in international comparison, would require a spread that is 26 basis points higher on the Hungarian housing loan market. At the same time, the risk cost spanning over several cycles is at least 1 % point higher in Hungary than in other countries of the region and up to 1.5 % points higher than in Western European countries.

3. 1. Benchmark yields of housing loans

Several analyses have been published recently, claiming that domestic housing loan spreads are high in international comparison. According to these analyses, spreads ranged from 2% to 3.2% in other countries of the region at the end of 2016, while Hungarian housing loan spreads were about 4.7%. At the same time, it can be stated that, after choosing the appropriate yield points, considering the liquidity premium included in the yields of government bonds and the deduction of actual interest rebates realised by the clients after the disbursement of the loan, the actual domestic housing loan spread was 2.6–2.7% at the end of 2016, while it was 2.2–2.5% in the first nine months of 2017. These values are similar to the interest spreads in other countries of the region.

Figure 1

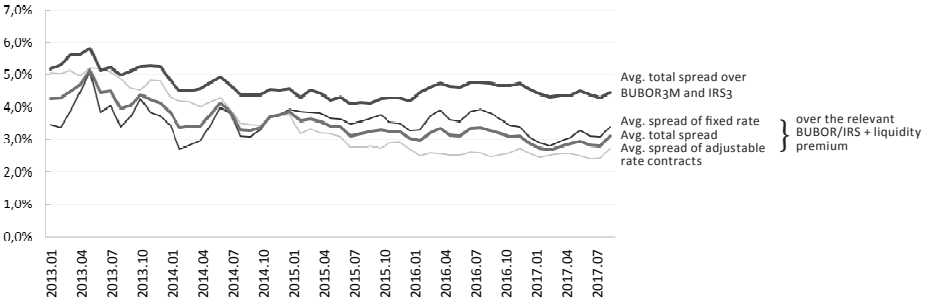
Housing loan spreads in international comparison*



Note: above 3-month Libor and 3-year IRS
Source: Fábián–Szombati–Vastag (2017)

Correct benchmark yields: the high Hungarian spreads may primarily be due to the fact that, in the case of loans fixed for more than one year, the 3-year IRS reference interest rate is considered to be the benchmark when quantifying the spreads. According the MNB's statistics, housing loans fixed for more than one year, which make up 58% of the housing loans disbursed in 2016, are typically fixed for a term of 5-10 years. If the interest fixing period is in line with the choice of reference points, and liquidity premium, i.e. the difference between the yield of the 10-year (average effective term) government security and the IRS yield is taken into consideration, the spread of housing loans is lower by more than 1 % point (see *Figure 2*).

Figure 2
The spread of Hungarian housing loans above the appropriate benchmark yields.



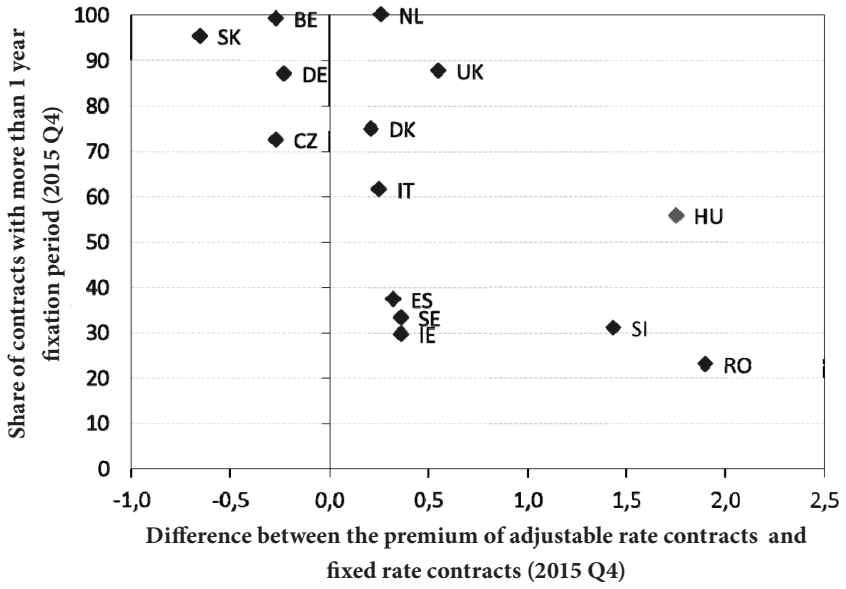
Source: own calculation based on MNB's data (XI. Exchange, money and capital markets, Average interest rates of HUF-based household deposits and loans; Official BUBOR fixings, Official BIRS fixings) and the data published by ÁKK (reference yields of government bonds)

Moreover, we could not calculate with the surplus yield of mortgage bonds issued owing to the introduction of the mortgage financing adequacy ratio (hereinafter referred to as JMM) at the time. Calculating with a very favourable premium of 50 basis points (in Germany, the surplus yield of mortgage bonds is 30–50 basis points above that of government bonds), a 20% JMM means additional 10 basis points, limiting the spread of housing loans.

It is also important to emphasise that, applying the appropriate reference yield points, it is not true that the unreasonably high spreads are primarily typical of fixed-rate loans, as there is no significant difference between the spreads of the two product types. Since the beginning of 2013, the average spread of fixed- and floating-rate loans was equally 3.5%. In the examined period, the spread of floating-rate loans decreased more than that of fixed-rate loans. This trend is also observable in the shape of the yield curve: The 3-month Bubor dropped by 5.6% points (from 5.7 to 0.1%) between January 2013 and September 2017, while the yields of 10-year government bonds decreased to a lesser extent, by 3.5% points (from 6.2% to 2.7%). The higher fixed interest rates are justified by the risks reflected by the shape of the Hungarian yield curve, as well. Among EU member states in the region, the yield curves of Hungarian and Romanian government bonds are the steepest. In the summer of 2017, the difference between the Hungarian 1- and 5-year yield points was 1.7% point, while the same value was 0.5% point in Bulgaria and 0.4% point in the Czech Republic and Slovenia. The steepness of the Romanian yield curve, which is similar to the Hungarian yield curve, supports the fact that the spread between fixed- and floating-rate loans is the largest in Romania among the examined countries in *Figure 3*. In the case of Hungary, the

higher price of fixed-rate loans can mainly be explained by the 170-basis- point difference between the loans and long-term government bonds.

Figure 3
The proportion of fixed-rate loan agreements among recent loans and the average spread of fixed/floating interest rates



Source: Financial Stability Report, November 2016, p. 19

Comparing Hungary to other countries in the region, due to long-term yields, the Hungarian 10-year yield point is 2.7% compared to the yield point of about 1% in the Czech Republic, Slovakia and Slovenia. Consequently, the recurring statement, according to which prepayment and early repayment do not pose any risk to the banks at current yield levels, is false. In the case of fixed-rate loans, long-term yields may decrease.

Interest rebates: As far as MNB's interest statistics is concerned, financial institutions have to report interest rate indicators and APRs exclusive of starting unconditional interest rebates. At the same time, several leading banks offer conditional interest rebates (e.g. related to opening an account or income transfer). As a result, based on our estimation, the actual interest rates of housing loans to be paid by the clients are at least 0.5% points less than the levels in MNB's statistics. Due to the aforementioned rebates, the actual housing loan spread may be 2.2–2.5% higher than the yields of the corresponding government bonds in the fixed term.

3.2. The lower average ticket size of loans necessarily leads to higher operating expenses

The housing loan spread shall cover the operating expenses related to housing loans. The low-efficiency operation does not necessarily mean higher expenses, however, there are certain characteristics of the market which banks cannot control. Banks had to incorporate the resulting extra costs into their prices.

Lower average ticket size: the average ticket size of a mortgage contract is EUR 17,000 in Hungary, which is the third of the Czech, Polish and Slovakian average (V3 countries) (source: European Mortgage Federation). It is more expensive to disburse considerably lower amounts per loan. If on average the fix starting costs make up 4% of the disbursed loan amount in Hungary, the extra costs spread for a term of 15 years are 39 basis points per year (along with an APR of 5%). In the case of a three times higher loan amount, the annual value would be 13 basis points, which would justify a 26 basis points higher rate of margin in Hungary. The fix administrative costs arising during the term are not even considered**.** The relevance of the loan amount is reflected by the fact several Hungarian banks offer a 25- or even 50-basis-point interest rebate for higher loan amounts.

Regulatory costs: compliance with regulatory requirements demands considerable IT and human resources from the banks. For example, during the settlement, 5.5 million loans have to be resimulated and 200 tons of letters with acknowledgement of receipt have to be sent. Over the past few years, banks have had to spend more than ¾ of IT developments on ensuring conformity with the law, and only a minimal capacity have been spent on developments aimed at process efficiency. It should also be emphasised that, due to the consumer protection regulations of recent years, 15-20 minutes of additional activities are estimated to have become part of the lending process. We believe that such activities have a counterproductive effect owing to the amount of verbal and written information provided.

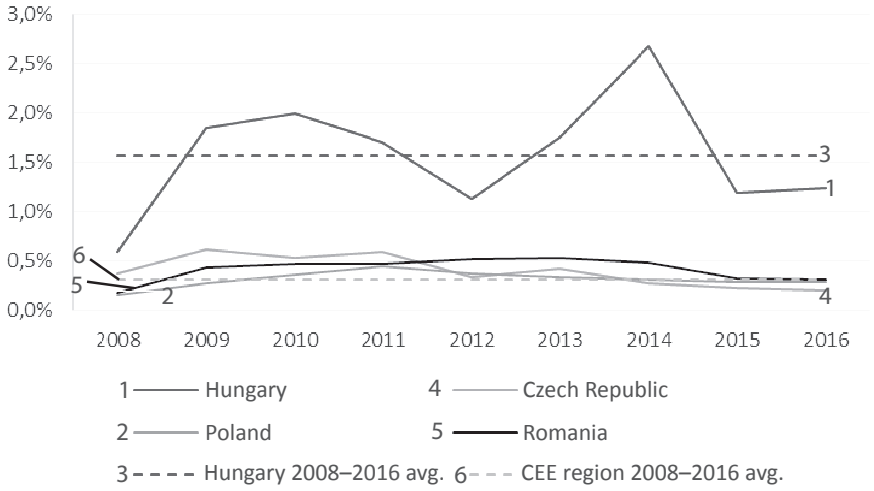
3.3. A very high retrospective and prospective (higher than the current levels) risk cost rate

The past few years have been characterised by a very low risk cost due to basically prudent (though dependant on certain variables) impairment loss formation practice and the favourable economic cycle after the financial crisis in 2008 (Kovács, 2011). However, it would be a mistake to price loans with an average term over 15 years on the basis of more favourable risk cost over a few years. Compared with the developed countries, due to more powerful economic cycles, higher real estate

price volatility and the regulatory framework preventing foreclosure, the risk cost rate spanning over cycles is at least 1% point higher than in other countries of the region, and up to 1.5% points higher than in Western European countries.

- Between 2008 and 2016, the negative effect of impairment loss on the profit was 2% a year on average in the Hungarian retail banking segment (Financial Stability Report, November 2016, Figure 35).
- Based on McKinsey Panorama Solution's database, between 2008 and 2016, the risk cost of Hungarian mortgage loans was 126 basis points higher than the regional average (1.57% versus 0.31% (see: *Figure 4*).[10]

Figure 4
Comparison of the risk cost rates of mortgage loans in the region

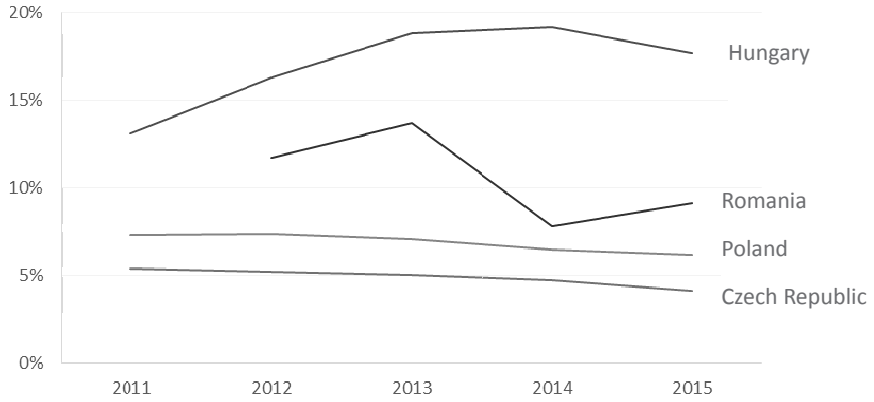


Source: McKinsey Panorama Solutions

- The highest proportion of non-performing loans in Hungary, along with the administrative difficulties of foreclosure (e.g. eviction moratoriums), resulted in a high risk cost rate.

10 Excluding the effect of rescue packages for foreign currency loan borrowers, the regional average was calculated on the basis of Czech, Polish and Romanian figures.

Figure 5
Proportion of non-performing retail loans in regional comparison



Source: own figure based on Deloitte NPL studies (2012–2016)

- The introduction of a generally available positive credit register and the establishment of an income database, which is already used in other countries of the region, could contribute to the reduction of risk costs.

3.4. Competition on the market

There is a very vivid and colourful competition on the market of housing loans. Based on the MNB's product comparison website, an average client can choose from ~500 offers of 77 financial institutions. Despite the fact that a very wide range of clients has the opportunity to take out a loan from a great variety of products, the clients differ from each other regarding their needs, the use of the products and the risks they pose. The diversity of clients is indicated by the fact that up to 5% points can be the difference between offers for the best and worse 10% of clients. By artificially narrowing the above-mentioned gap by means of regulatory devices, weak debtors may be eliminated from the legal loan market. In addition, the interest rate level of the best debtors may increase due to standardisation.

Owing to the competition on the market, the spread of HUF-based housing loans has significantly dropped since 2013. As Figure 11 shows, the spread decreased by 1.8% points, from 4.6% in the first half of 2013 to 2.8% in the first half of 2017 (a decrease of 39%). At this level, the decrease of spreads may be worrying regarding financial stability, as the profitability of housing loans may turn negative in the case of spreads below 3%. It is important to emphasise that the 2.8% spread is an average value. Among the riskiest clients (10% of the clients), the spread exceeds 4%.

4. SUMMARY

In our article, we dealt with the profitability of the banking system, in particular with two components of profitability, the amount of housing loan spreads and the operational efficiency of banks, which have generated very heated professional debates recently. In our view, most professional debates about the profitability of banks have their origins in data or methodological problems. Based on the best available data, it can be stated that the profitability of the Hungarian banking system is considered to be low, with regard to both economics (based on cost of equity and the target level set by MNB) and in international comparison. Foreign parent banks require continuous capital increases. The losses are mainly attributed to special taxes payable to the government, rescue packages for foreign currency loan borrowers and the costs of settlement. Examining the most important components of profitability, it can be stated that the Hungarian housing loan spreads are proportionate to the risks of the Hungarian market. The efficiency of Hungarian banks is not worse than the average of the banking systems in countries on the same level of development.

Finally, we should draw attention to the fact that a healthy economy and a healthy banking system go hand in hand, they mutually depend on and strengthen each other. A strong, actively lending banking system expands the growth potential of the national economy and vice versa: favourable processes in the national economy facilitate the development of the banking system. In order to reach the optimal state described above, stable macroeconomic indicators and a regulatory framework supporting the competitiveness of the banking sector are the most needed.

REFERENCES

Brealey, Richard A. – Myers, Stewart C. (2011): *Principles of Corporate Finance* [Modern vállalati pénzügyek]. Published in Hungarian by Panem Kft., Budapest.

Becsei, András (2016): Shrinking and Growing at the Same Time? [Zsugorodva növekedni?] 1 December 2016, www.figyelo.hu

Cisco (2012): Cisco IBSG Omnichannel Banking Study, 2012. www.cisco.com.

Damodaran, Aswath (2006): *The Assessment of Investments – Methods and Procedures* [A befektetések értékelése – Módszerek és eljárások].Published in Hungarian by Panem Kft., Budapest.

Deloitte (2012-2016): Benchmark Studies on Non-performing Bank Loans. www2.deloitte.com.

European Mortgage Federation (2016): Hypostat 2016. www.hypo.org.

Fábián, Gergely – Szombati, Anikó – Vastag, László (2017): Are Housing Loans Expensive or Very Expensive in Hungary? [Drágák, vagy nagyon drágák a lakáshitelek Magyarországon?] 29 March, www.portfolio.hu.

Kovács, Levente (2011): The Situation and Challenges of the Hungarian Banking System [A magyar bankrendszer helyzete és kihívásai]. *Hungarian Financial Almanac 2011–2012* [Magyar Pénzügyi Almanach], Budapest: TAS-11 Kft.

Kovács, Levente (2013): The Situation and Challenges of the Banking Sector in 2013 [A bankszektor helyzete és kihívásai 2013-ban]. *Hungarian Financial Almanac 2013–2014* [Magyar Pénzügyi Almanach], Budapest: TAS-11 Kft.

National Bank of Hungary (2016): Financial Stability Report, November 2016, www.mnb.hu.

Nagy, Márton – Vonnák, Balázs (2014): 10 Characteristics of a Well-Functioning Hungarian Banking System [Egy jól működő magyar bankrendszer 10 ismérve]. 17 March, www.mnb.hu.

Palkó, István (2017): A quarter of Hungarian bank branches and a tenth of bank employees have disappeared [Eltűnt a magyar bankfiókok negyede és a dolgozók tizede]. 17 January, www.portfolio.hu.

Palotai, Dániel (2016): Competitive reforms [Versenyképességi reformok]. Forum on Competitiveness and Growth, 24 June, www.mkt.hu.

World Economic Forum (2017): *The Global Competitiveness Index 2017–2018* (2nd ed.), www.weforum.org.