Banking Competitiveness

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Introduction

Economic growth and competitiveness are two of the most analysed areas of economics, which have a direct influence on the welfare of both individuals and the whole society. Today, growing competition puts a new emphasis on corporate future orientation, more precisely, on future-oriented strategy-making. This, however, presupposes a better knowledge of an adequate corporate vision and of resources and action alternatives (Gyenge, 2016). "The 2008 financial and economic world crisis had and still has a significant effect on market participants. According to economic forecasts in 2013-14 the European economy is expected to stagnate, leading European countries are also predicting recession for the near future. Thus, the crisis resulted in not a temporary but an almost permanent situation that could last for several years still" (Karmazin et all., 2013; Túróczi, 2015). Therefore, economic participants need novel, innovative and active strategies to ensure efficient operations (Túróczi, 2016). In the 21st century's turbulently changing economic environment the following development areas seem promising: optimisation of supply chain processes, process innovation, positioning systems and the development of business specific simulation procedures (Gyenge et all., 2016).

Economic competition requires a well-functioning financial system: adequate and high quality financial services and an appropriate provision of sources for investments and operations. Banks are looking at peer-to-peer lending companies that lend money by eliminating traditional financial institutions with distrust. They do so for a reason: it is enough to take a look at the exponential growth in turnover figures.

Financial services in transferring that has emerged as a separate cast among startup companies and which aid online trade statements (fintech businesses), and the sharing economy model only appeared a few years ago. Yet, there is already a lot of money in this area, which demonstrates the success of companies structured thus. Despite the fact that the authorities look askance at sharing economy, it seems to be staying with us in the next few decades. Therefore, it is worth considering how it can restructure power relationships between companies and governments, employers and employees, banks and their customers.

However, today the key to the competitiveness of national economies is still the well-capitalised, stable, adequately profitable and solvent banking system, which, by means of its lending activities can improve economic competition, investments and employment figures.

This study aims at analysing the competitiveness of domestic banks, as well as presenting the new transactional platforms in the chosen sector and placing the model in the well-known theoretical framework of economics.

1 The current situation of the banking sector

The Hungarian national economy is bank-centred. Alongside being bank-centred, it has to be emphasised that the Hungarian economy is based on banks, that is, the financial and capital markets are rather poor. Thus, the business sector relies heavily on the banking sector for more significant resources (Tóth, 2016). In this light, it is easy to see that banks play a vital role in the national economy. This entails that banking competitiveness has an effect on the competitiveness of the national economy. After the change of the political regimes rather different perceptions of banking competitiveness have emerged in different eras as well as for different individuals. Pensioners paying their bills by cheque, small entrepeneurs purchasing their utility vehicles through subsidised loans, business owners handling their financial matters via smart phones, private banking customers and big corporations all have their different interpretations. At the beginning of the 90s the subjective competitiveness of banks was measured in terms of the length of queues outside of bank branches, or, in the case of car leasing, after having been granted deferral of payment, in the amount of interest rate paid on loans. In these times banks symbolised wealth, welfare and extremely big failures at the same time (Ábel-Polivka, 1998). Experts considered financing banks as the ruling tendency inherited from the past, whereas service provider banks were seen as the way forward (Ábel-

Polivka, 1997). **In this period the average retail and SME-bank customer was traditionally fairly loyal to their service provider banks:** in the EU-15 average accounts keeping time for retail customers was more than 10 years, for SMEs almost 9 years. For new member states it was less than 6 or 5 years, which, considering the fundamental changes in new banking systems over the past 15 years, was still relatively long (Kopint Foundation For Economic Research, Erzsébet Gém, 2008). Especially so, given compulsory tying, that is, the common practice of banks providing loans on condition of compulsory accounts keeping.

Besides consumer loyalty, **in this period changing banks was hampered by its high cost**s: substantial account closing costs, administrative burdens of changing banks, as well as information asymmetry and low price transparency making it hard for consumers to compare the offered products and services (Kopint Foundation For Economic Research, Erzsébet Gém, 2008). Following the privatisation of banks one of the most welcome effects of strengthening market competition was the **rapid improvement in the amount and standard of services**. Banks having operated only in certain subareas started to offer a wider and wider range of commercial bank services for their customers by the end of the 90s, and in the noughties they enabled European standards of banking.

However, banking profitability still only meant interest margins and different types of interest incomes, which even alongside competition and significant costs expenditure on services failed to encourage banks to introduce more efficient management until the advent of the 2008 crisis. The economic crisis forced banks to a drastic cut and tightening of retail and SME loans, the substantial source withdrawal only further exacerbating the situation of the corporate sector, leading to additional bankruptcies. The amount of credit allocated to SMEs, apart from a few fluctuations, has been decreasing since 2008 (Mester et al., 2016). Regulatory shocks have gradually replaced market opportunities in banks, and instead of allocating new credits, the focus shifted to managing existing ones. **The banking sector, predominantly in foreign ownership as of 2013, is still struggling to achieve owner and market competitor expectations on return.**

Besides drastic credit cuts, **digitalisation has fundamentally changed banking services and infrastructure.** Banks' offers are comparable at the click of a button, whether we are dealing with real estate loans, personal loans, personal or business bank accounts services, deposit rates, credit card services or currency quotation. Inter-bank transfers are immediate, and competition is only restricted by the extra costs of transaction duty. Today financial services are the most digitalised industry in the EU (see *Figure 1.*)

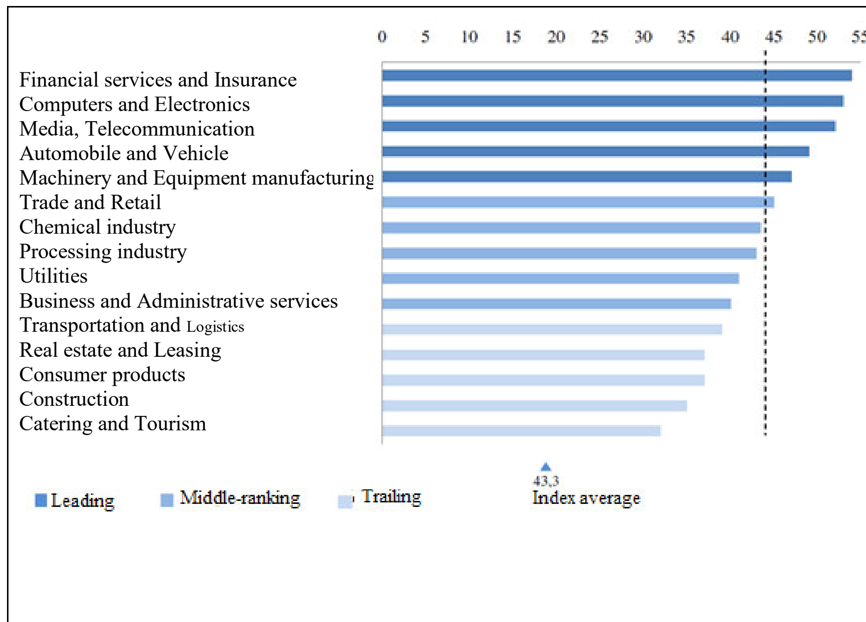

Figure 1.
The rate of digitalisation in different sectors and industries in the EU

Source: Friedrich et al. (2012. p.4.)

The digital word requires shorter and shorter response times from banking systems, for which core systems have to be continuously updated. Today's banking is shaped by customer demands, changing forms of behaviour, disruptive technologies and cost pressures.

Physical location is becoming less important. Banks cannot be missing out from today's digital ecosystems, what is more, they have become part of them. Contrary to the earlier inside out approach – that is, bringing the bank to the client -, today the trend is outside in, that is, customer expectations have to be translated into business processes. However, it has to be remarked that there are no real differences between banks in terms of services, save for lending, almost every bank offers its services at a high standard. Therefore, given the same standard and pricing of services, competition involves quality lending: intellectual capital, personal service and dedicated communication have gained a new significance (Réthi, Kása, & Molnár, 2014).

2 Banking competitiveness features

Table 1. summarises the most prominent features of current banking competitiveness.

skills and ability for constant renewal and immediate adaptation to changes; for this, continuous investment demands
low operating costs
developed risk management system
establishing an adequate bonus scheme and margins
ensuring adequate customer experience
clear and transparent management concept and model
innovative banking strategy
predictable taxation and regulatory system

Table 1.
The most important features of competitiveness in the current banking system
Source: Author's own compilation

One of the major prerequisites for stable banking operations is adequate solvency, for which adequate profitability has to be ensured.

Macroeconomic factors (growth rate, inflation rate, stable macroeconomic environment, savings rate, credit demand), as well as **competition in the bank sector** in a certain country play a decisive role. Generally speaking, **the stronger the competition, the less opportunities banks have to increase their income using a high interest margin, whereas weak competition enables them to pass on operational costs to clients and thus realise extra profit**.

For measuring competition in the banking market, a wide spectrum of indicators, hypotheses and models are available in the international economic literature. Alongside the simplest variables for market structure and concentration (e.g.: Herfindahl-index, Concentration ratios) and profitability (ROA, ROE, interest margin, cost effectiveness, etc.) indicators, several studies estimated using empirical models developed for measuring banking market competition the strength of competition in different segments in the market[1] (Kopint Foundation for Economic Research, Erzsébet Gém, 2008).

Sectoral return on assets (ROA) between 1994-2002 – save for 1999, reflecting the effect of the Russian crisis – exceeded EU levels. Real values of return on equity (ROE) were often negative in the 90s, but from 2000 on they showed return on capital. The continuous decrease of net interest income on assets (interest margin), as well as of gross income starting form the end of the 90s showed that banks had

[1] Described by Erzsébet Gém (2008) in detail.

less means to increase their income by a wide margin, whereas interest margin was still the double of the EU average in 2002, with gross income on assets showing the same difference. Taking the double EU average level ratio, it shows that Hungary reached higher profit despite a lower efficiency. At the end of 2002, in the Hungarian corporate banking market the loan-to-deposit ratio was 2.3% compared to the 3.4 % EU average, in the case of retail credit 12.8% compared 7%, whereas for market real estate loans 6.4% and 1.7% respectively (Várhegyi, 2003).

Due to restricted competition in these years, a number of Hungarian banks could obtain oligopolistic benefits in the retail and in conjunction the SME market (Bánfi, 2013).

In the second half of the noughties stronger competition was signalled by lower market concentration. Parallel to the balancing of market forces and the strengthening of contestability, cost effectiveness improved and financial intermediation costs decreased. In terms of the retail market, based on the CR3 and CR5 (the 3 and 5 biggest banks' market shares) measures, the Hungarian banking system performed in the EU middle-level. Concentration also decreased in the other segments of the market, which showed a positive tendency for competition. In their efforts for market penetration the banks put a heavy emphasis on improving services and the underlying infrastructure, at the same time, in 2007, the growth rate of operational costs was much lower than in previous years (Kopint Foundation for Economic Research, Erzsébet Gém, 2008). It has to be remarked though that indicators calculated on the basis of accounting data have to be interpreted with care in any research dimension, as accounting evaluation policies are constantly changing all around the world. The rules of the Hungarian accounting system, for example, have been constantly changing since they came into force in 1992, in the context of harmonisation with the EU standards (Harsányi, Siklósi, Veress, 2013).

Return on assets and equity, however, remained well above the European average in the middle of the 2000s (see *Table 2.*)

Name	2004	2005	2006	2007	2008	2009	2010
Interest rebate (interest margin)	3,9	3,9	3,6	3,2	2,7	2,6	3
Commission	1,3	1,3	1,2	1,1	0,9	0,9	0,9
Operational costs	-3	-2,9	-2,7	-2,7	-2,4	-2	-2,1
Impairment loss and special purpose asset changes	-0,4	-0,2	-0,4	-0,5	-0,5	-1,5	-1,2
ROA	1,98	1,94	1,89	1,49	0,91	0,72	0,13
ROE	23,4	22,7	22,3	17,5	11,2	8,91	1,44

Table 2.
ROA and ROE in the Hungarian banking sector

Source: Hungarian Financial Supervisory Authority (HFSA), * Expressed as a percentage of total average assets

The table shows that between 2005-2007 – due to increasing competition and higher-scale development costs – the profitability advantage started to decrease (Várhegyi, 2012).

In 2007 – partly owing to more and more expensive liquidity – **both ROA and nominal and real values of ROE declined significantly**, resulting in the lowest profit on equity in the sector in year 2007 among the new EU countries (*Figure* 2.). From 2005 interest margin began to decrease both in the banking sector and the 8 biggest retail banks. By looking at 2006 and 2007 concentration and profitability indicators, as well as the operational and gaining market shares practices of major banks, significant **strengthening of banking market competition** can be observed in the retail sector (Kopint Foundation for Economic Research, Erzsébet Gém, 2008). In view of the fact that in the retail market the retail and the SME sectors were subject to the same business line regulations in major banks, growing competition was projected onto the SME branch as well (Molnár & Kása, 2014).

Given the competition and decreasing profitability, the 2002-2008 period was too short for the banks to introduce a more efficient management before the 2008 crisis.

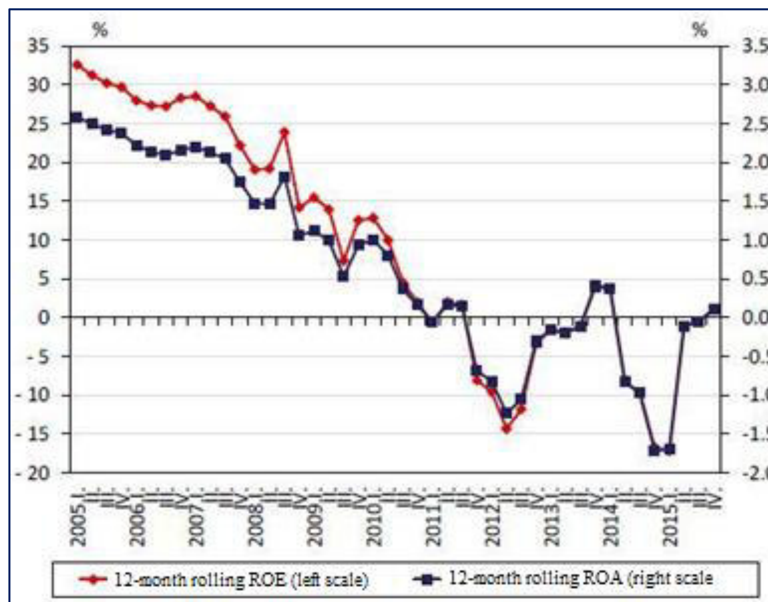

Figure 2.
Annual pre-tax profits and ROE, ROA of the banking sector and branches

Source: Hungarian National Bank

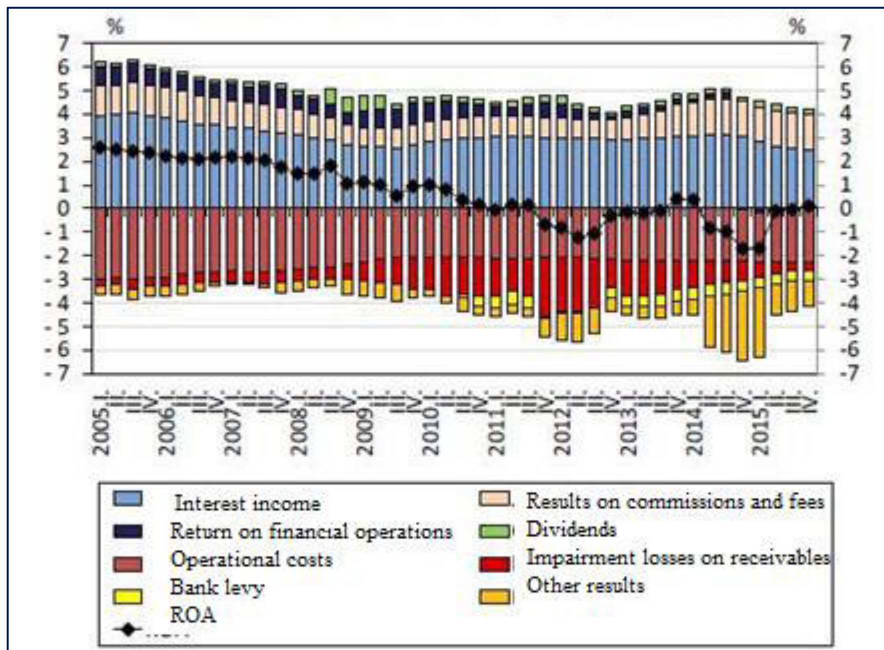

Figure 3.
Aggregate profit components of the banking sector and branches as a proportion of 12-month average total assets

Source: National Bank of Hungary (NBH)

Therefore, the recovery and an annual 5-10% increase of market-based corporate lending are the key to profitability for banks, as well as to sustainable economic growth for national economies (*Figure 3.*) (Palotai-Virág, 2016).

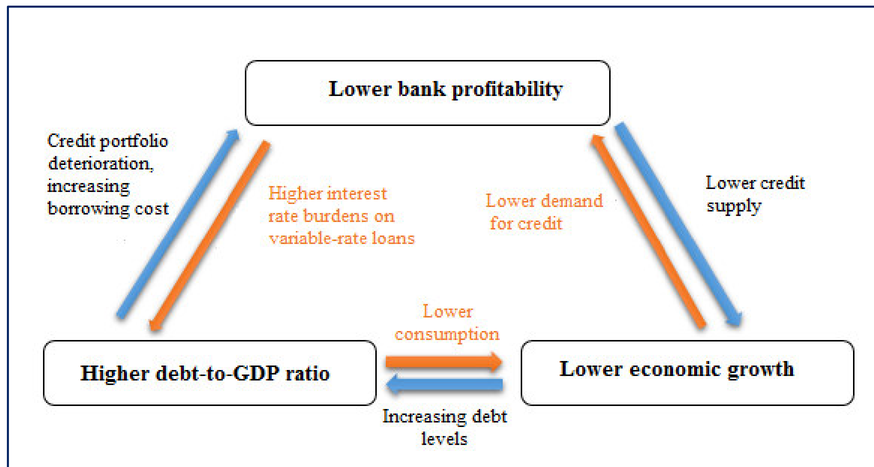

Figure 4.
Negative feedback between banks' profitability and economic growth

Source: ECB

3 Banking competition/pricing

In the empirical analysis of market structure components in competition, the 90s were dominated by the so called non-structural approach, in which the intensity of banking market competition is measured on the basis of banking market behaviour. At the same time the literature lists a number of cases where interest rate rigidity is not the result of lack of competition (see, e.g. Gual (2004)). A few examples are adverse selection due to information asymmetry in lending, high bank switching costs, or banks' fears about portfolio deterioration resulting in them refraining from easing credit conditions. In the case of high risk credit products the high risk premium ratio in the interest rate does not necessarily allow for following market interest rate decrease. Pricing behaviour is often used in the analysis of competition intensity. One type – believed to be predominant in the noughties in certain segments of the Hungarian bank market – is the so called leader following model. According to the model following market leader banks, smaller market participants also set higher prices than competitive prices. It is also widespread to study 'sticky' interest rates, that is, how fast interest rates in a given bank market, or in the case of its different products adapt to the changes in money market interest rates (Kopint Foundation for Economic Research, Erzsébet Gém, 2008).

Obviously, the relevant literature in 2008 cannot have seen the coming of the credit crisis and the credit drying up. However, the preferential conditions of the Loans for Growth Program (the biggest advantages being fixed interest rate and achievable

long-term maturities) have managed to have a beneficial effect on lending and borrowing willingness (Mester-Tóth, 2015; Kása, 2015).

Figure 5. aims at summarising the growth rate of the overall corporate and SME sector loan stocks.

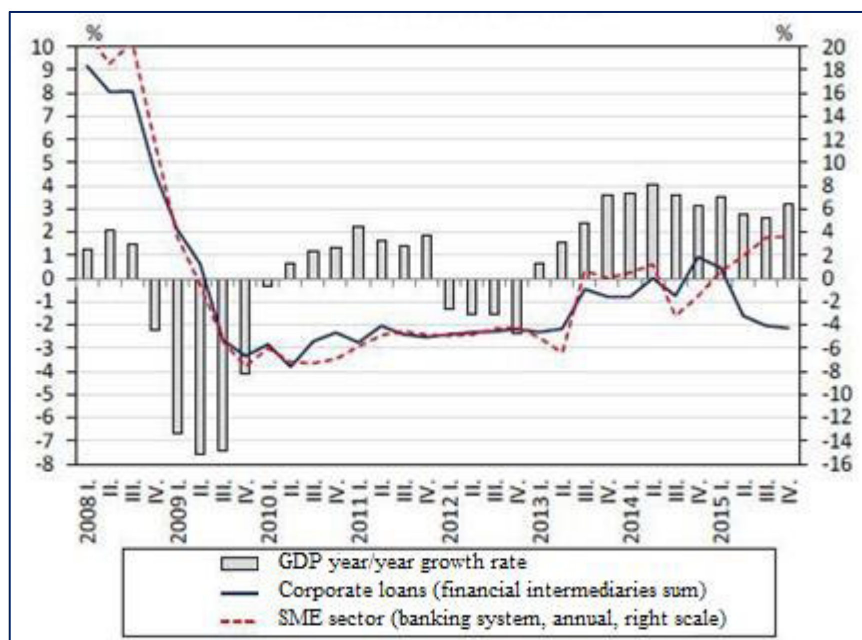

Figure 5.
The growth rate of the overall corporate and SME sector loan stocks

Source: Hungarian Central Statistical Office (HCSO), NBH

Note: Transaction-based, SME sector based on new data report as of fourth quarter 2015

The NBH program positively strengthened **interest rate 'stickiness'**, the Loans for Growth Program became the **leader-following model** and it was strengthened by the fact that banks' lending willingness and risk-taking is not independent of the future of potential debtors' interest rate burdens, which depends on interest rate levels, interest rate risk and possible exchange rate risk (Vonnák, 2015). The Loans for Growth Program made these risks calculable, stable, measurable and clear by offering stable long-term interest rate loans instead of market loans.

The Loans for Growth Program has brought about a sea change in domestic SME sector lending. Statistical data show a breaking trend in corporate, and thus SME-lending processes. While earlier years had witnessed a 4-6% loan stock shrinking, it has been practically stable since third quarter 2013, which can mainly be attributed to the Loans for Growth Program (NBH, 2015). **The primary aim of the**

Loans for Growth Program is to stop the negative tendencies in corporate sector lending, strengthening financial stability and decreasing the external vulnerability of the Hungarian economy. Shrinking credit supply hinders economic growth (NBH, 2015). The Loans for Growth Program is a well-structured, strong program, which can boost market lending as well. In this light, a few questions arise for the future: banking sector stability, given the almost identical commission fees and 'sticking' interest margins, will be determined by the volume of allocated credits alongside an adequate cost management.

How will it fulfil its intermediary role needed for the proper functioning and growth of the domestic economy? What can commercial banks do (given, or instead of central intervention) for competitiveness?

Banks need to carry out a significant expansion in the credit and investment market: besides exploring new markets they have to reduce their costs in terms of returns, they have to implement further consolidations and network reduction measures. Most importantly, to facilitate growth, by improved risk assessment, trust must be strengthened: for the SME sector it can be promoted by banking market innovations, better understanding of the sector through structural and lifecycle assessment, and improved demands provisions (Mester-Tóth, 2015).

4 Shadow banking

Many believe banking to be a complex, slow-to-react system, which rather dictates conditions, however, nowadays this in not the situation. Instead, most banks attempt to eradicate this image among their clients. This is aided by technological opportunities, which are present in both the banking and financial sectors.

Today competition does not lie in the amount of services, but rather in which bank in the market can provide the same service better, at a higher quality standard, in a more client-centred way. Competition and innovation must be accompanied by safety, which has to be observed by regulators.

The above view of the banking system (parallel to financial technological innovation, of course) might have contributed to the development of a shadow banking system - in the present environment of the financial sector –, which, according to experts, might decide the future of the financial system (Szakály, Kása, 2011).

The name shadow banking captures the essence of the underlying content well: a shadow is a dark area of space created behind an illuminated, non-transparent object, whose shape and size depend on the illuminated object itself. The financial interpretation of the concept also refers to this, since it denotes uncertainty, hard transparency and the complex structure which is characteristic of the banking system but is lurking in its shadow. **Shadow banking is nothing but a concerted credit intermediation structure that involves entities and activities outside the**

regular banking system. Therefore, it refers to every credit supplying entity which operates outside the traditional banking sector, which is not bound by the standard of banking regulations, but whose participants do not enjoy central bank or investor protection assistance in case of crisis.

Although the literature does not make the connection, another element of stable profitability needed for banking competition is an adequate quality commissions system relating to competitive financial transfer services. The shadow banking system that developed in the transfer services market aims at minimising commission income, although it has to connect to banks at the starting and final points. The concept of 'shadow banking' first appeared in the USA and its original interpretation covered the most important phenomenon leading to the 2008 crisis. It was then when the major banks themselves – predominantly in the USA, but in other western European countries as well –, to bypass central banking regulations, created an unregulated bank-like extension system, the shadow banking system, thereby increasing the vulnerability of the banking system and – explicitly or implicitly – sovereign risks (Szegő, 2014).

These institutions and institution systems have created banking products and linked constructions, by which they could bypass central bank and market regulations. Only think of mandatory capital maintenance requirements that mean costs for commercial banks, says Szegő in his study (2014). He also emphases that this way they wanted to combine the freedom of investment activities (at lower costs and higher profit) with the state guaranteed security of commercial activities. They wished to avoid the regulatory obstacles on commercial banks imposed by central banks, at the same time, they intended to maintain the hidden state aid of commercial banks, namely, cheap insurance and state granted deposit-taking monopoly.

In this light, it is not surprising that while earlier crises were bought about by the loss of trust of individual money-savers in banks, the 2008 crisis was caused by the erosion of trust among banks, since the development and operation of the shadow banking significantly increased the riskiness of the whole banking system.

The thus defined shadow banking system had already outweighed regular banks in the pre-crisis USA. The process rose sharply in the 2000s and after 2005 it changed up another gear. The post-crisis period witnessed a significant decline, yet in 2013 it still exceeded 50%, that is, the half of total lending range (*Figure 6.*).

It has to be acknowledged, says Szegő, that traditional shadow banking is concentrated in areas where giant banks outweigh the given national economy – just like in the Euro zone.

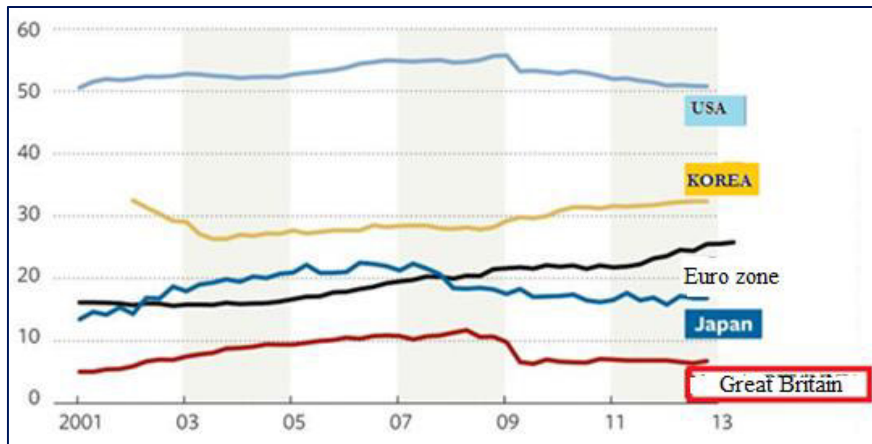

Figure 6.
Lending rate of the shadow banking sector (%)

Source: Author's own compilation

However, today the term 'shadow banking' does not refer to the extension system created by banks, instead it refers to a complex financial services market, with new participants, new behaviours and the development of new business models in the globally transforming transactional space, both in terms of lending and transfer services. The above factors are closely related to the fact that the most important technological feature of information technologies, especially the internet – in contrast with the majority of the Fordian industrial technologies – is *decentralisation*. The internet does not have a 'master switch' to control the network. Moreover, there is no government to stop it, or a jurisdiction to control it (Taylor, 2003). However, it is most often the state assisting the restriction of competition. Information technologies – especially the internet – promote an enhanced (and often unbridled) competition in almost every sector (Hámori, 2013).

Internet openness enhances competition in itself. Since new internet companies (the so called startups) usually have very few physical products and short supply chains, or they originally focus on information commerce, they can virtually be set up overnight.

Low or non-existent entry barriers allow smaller local companies – using the internet as a distribution channel – to *take part in global competition.* This means that any small local entrant can pose a threat to existing global businesses by offering newer and better services. However, the other side of the coin is that global majors can endanger the smallest local companies which have been dominating their local markets (Hámori, 2013). *Dominant global companies enter more and more segments of the ICT market leaving little space for smaller participants.*

A typical example is collaborative 'peer-to-peer lending' or as it is called 'marketplace lending'. Since 2010 in the USA the amount of loans in this form of lending has doubled every year, but it is also rapidly increasing in China, Australia and the UK (Bethlendi & Végh).

At first, it spread in regions marked by lack of capital, and in countries where there is a lack of available assets or the economy is struggling for some other reason.

A major advantage to 'peer-to-peer lending', P2P system-based technology is its ability to provide for short and long-term financing at lower than banking interest rate while at higher return rates.

The Lending Club, the biggest American P2P creditor has already executed several billion dollars-worth lending. It is a clear sign of showing the success of P2P. Restrictions have already been imposed: in the USA only legally registered investors owning a minimum of 1 million dollars in free capital can take part in P2P lending. P2P is generated by unprecedently low interest rates and strict post-crisis banking conditions. More significant are the spreading and development of networks and collaborative systems. Electronic systems efficiently eliminate the slow administrative and bureaucratic banking system. Also, they are faster and cheaper and usually available 24/7. They connect lenders who have extra sources to invest and borrowers in need of loans.

The model works by individuals giving money into a common fund to satisfy loan applications accepted by the system. The mechanism is similar to the one found in banks, however, it operates at lower costs. Therefore, depositors usually enjoy a higher interest rate than in a bank, whereas the applicant usually pays a lower interest than when taking out a bank loan. It is a risk factor, however, that depositors are not protected under the government's deposit-guarantee scheme. At the same time, the system contains several safeguards resulting in a lower amount of unsecured credit than in large banks. The sole consequence of non-repayment is being excluded from the system. However, experience shows that there is less default in P2P than in banking systems (Tóth, 2015).

The world economic crisis undoubtedly contributed to the development of such systems, however, the spread of the internet was also a prerequisite. Collaborative lending still awaits the creation of its legal framework and legitimate environment. Wherever the practice has spread, legislation monitors and tries to regulate it, however, what a crisis situation would cause, remains to be seen. Some believe that the existence of the system was made possible by the American central bank cutting interest rates to near zero. Nonetheless, as soon as the interest rate increasing promised by the Fed begins, P2P investors' attention is likely to be directed towards new investment vehicles (Tóth, 2015). It was a somewhat surprising fact that banks were not bothered by the appearance of P2P. Lending small loans to individuals and financing high-risk small enterprices seemed a rather non-profitable business. Yet, today, large European banks and investment banking houses overtly take part in the constitution of investment funds that invest in SMEs' collaborative loans. The biggest collaborative creditors' own several-hundred pounds worth funds become

passive acquirers of collaborative creditors' loans (Tőzsdefórum, 18 January 2016, 11.40 source: TF information).

The next figure (*7.*) shows shadow banking development and growth in one of Europe's strongest economies, Germany.

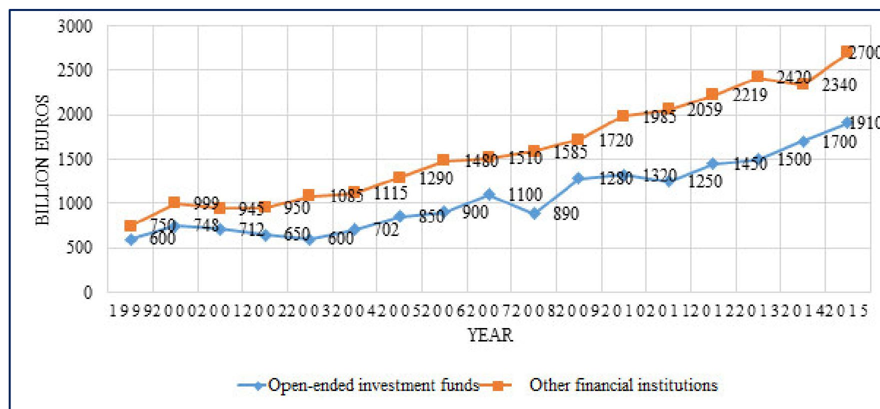

Figure 7.
Structural developments of Germany's shadow banking system

Source: EKB, Deutsche Bank, 2015

Shadow banking activity plays a significant role in the economic-financial system, since a few of its most important tasks are to

- create additional financing sources,
- offer alternative investment opportunities besides traditional banking practices, and
- offer a risk-sharing instrument for banks.

The environment of the financial sector as we know it today will be determined by the future expansion of the shadow banking system.

5 Summary – Will banks go out of fashion?

As things are today, it is almost likely that in the future whenever we are in need of a sum of money we do not have at our disposal, it will be enough to press a few buttons on a mobile application to access it within a few minutes (Tóth, 2015). The major economic trends are becoming dominant in our lives, and banks also have to adapt to the changes (Karmazin, 2014).

In his study 'The Nature of the Firm' Ronald Coase British economist asks the questions: Why do companies exist? Why isn't the world a sea of individual contractors? One of Coase's merits is stating that using the market coordination

mechanisms has a cost. Thereby the concept of transactional costs was born (Kapás, 2000). Market regulations and coordination have their costs, it is difficult for buyers and sellers to find each other, if everyone were individual participants, an enormous amount of time would be spent writing up and observing contracts, and so on. Companies are the alternative to markets, and experience shows that they are a competitive alternative indeed. Based on Coase's views and using the theories of economy, organisational theory and law Williamson (1993) created his significant theory: the market and an organisation differ along the five main categories: incentives, administrative control, the level of autonomous and cooperative adaptation, and the type of applicable contract law (Kapás, 2000).

Why are there still banks? Why can't start-up companies take over lending? What we see is an extreme example of market and corporate model competition. Apparently, the novel market space efficiently fulfils its role, brings together buyers and sellers at lightning speed, transactions can easily be conducted in it, conditions can be adapted to the actual situation, it can maintain a balance, and it can distribute and coordinate resources and capacities. In other words, the market model armed with its modern technology has besieged the corporate model. Coase, however, would definitely call for caution here. The battle is not over yet. The old always find it hard to adapt but certainly will not surrender their position. Used wisely, the new technology might as well help them. We are in for a few surprises (Bőgel, 2016).

Literature

[1] Ábel I. – Polivka G. (1997): A versenyképességet befolyásoló tényezők a bankrendszerben, Budapesti Közgazdaságtudományi Egyetem Zárótanulmányok Z18 kötet, 8.oldal

[2] Ábel I. – Polivka G. (1998): A bankpiaci verseny Magyarországon a kilencvenes évek elején Közgazdasági Szemle, XLV. évf., 1998. június, 534 oldal.

[3] Bánfi Z. (2013): A retail bankpiaci verseny hatásai Magyarországon, különös tekintettel a lakossági forint- és devizaalapú jelzálog-hitelezésre, Doktori Értekezés, 11-12.oldal

[4] Bethlendi A. -Végh R. (2014): Közösségi finanszírozás-valós lehetőség-e a hazai kisvállalatok számára? (Hitelintézeti Szemle 13.évf. 4. szám 105.oldal)

[5] www.hitelintézeti szemle.hu/letöltés/5-bethlendivegh - 2.pdf

[6] Bőgel Gy. (2016): Mit szólna Coase?, Figyelő 2016/21 28-29 oldal

[7] Friedrich, R. – Le Merle, M. – Gröne, F. – Koster, A. (2012): Measuring Industry Digitalization Leaders and Laggards in the Digital Economy. Booz & Company, New York

[8] Gém E. (2008): A versenyintenzitás mérése a retail banki szolgáltatások piacán, Kopint Konjuktura Kutatási Alapítvány, Kutatási jelentés 2008, június, projektvezető: Gém Erzsébet, 5-19 oldal)

[9] Gyenge B. – Kozma T. – Tóth R.(2016): Was ist das Geheimnis des Geschäftserfolgs nach der Krise? Geschäftsmodell im Unternehmen, Online recenzovaný časopis, Seye E-Studies, ISSN 1338-1598, http://ujs.sk/gtk/e-studies/

[10] Gyenge B. (2016): Szimuláció alkalmazása a vállalat gazdasági folyamatainak modellezésében; In. (szerk): Gyenge B. – Kozma T.: Folyamatmenedzsment kihívásai: Döntési pontok, kapcsolatok és együttműködési stratégiák a gyakorlatban, p. 120.

[11] Hámori B. (2013): Új szereplők és magatartásformák az átalakuló tranzakciós térben, Akadémiai Doktori Értekezés 35,79, 187-197 oldal

[12] Harsányi G.-Siklósi Á-Veress A. (2013): Értékelés a számvitelben

SZÁMVITEL ADÓ KÖNYVVIZSGÁLAT: SZAKMA 2013:(12) pp. 558-559.

[13] Kapás J. (2000): A tranzakciós költségek tana a vállalatelméletben,

Vezetéstudomány XXXI. évf. 10-12. oldal

[14] Karmazin Gy. (2014): A logisztika szerepe a gazdaságban. In: Magyar Csomagolási Évkönyv, Csomagolási és Anyagmozgatási Országos Szövetség, 28-29. oldal, ISSN: 2063-0867

[15] Karmazin Gy. – Szécsi G. – Gál I. – Nagy J. (2013): A hazai fuvarozók helyzete és kilátásai Európában. In: Chikán Attila (főszerk.): Logisztikai Híradó, XXIII. évfolyam 1. szám, 2013. február. Magyar Logisztikai, Beszerzési és Készletezési Társaság, Budapest, 38-40. old. ISSN: 2006-6333

[16] Katits Etelka (2002) – Pénzügyi döntések a vállalat életciklusában, KJK-Kerszöv. Kiadó, Budapest

[17] Katits Etelka (1998) - A vállalati tőkestruktúra, Janus Pannonius Egyetemi Kiadó, Budapest

[18] Katits Etelka, Szalka Éva (2015) – A magyar Top 100 pénzügyi elemzése 2008-2013 között, avagy a növekedési lehetőségek feltárása, Saldo Kiadó, Budapest

[19] Kása R. (2015): Approximating innovation potential with neurofuzzy robust model. Investigaciones Europeas de Dirección Y Economía de La Empresa, 21(1), 35–46.

[20] Kerekes M. (2012): A magyarországi kereskedelmi bankok jövedelmezőségének és hatékonyságának elemzése 2005 és 2010 között, Doktori Értekezés tézisei.

[21] Mester É. – Tóth R. (2015): A magyarországi kkv-k aktuális helyzete és

finanszírozási lehetőségei – ECONOMICA 2015. 1. szám, ISSN 1585-6216

[22] Molnár L. – Kása R. (2014) Pénzintézeti percepciók az közép-magyarországi és az észak-magyarországi fogyasztók körében. In E. Hetesi & B. Révész (Eds.), Marketing megújulás (Marketing Renewal) (p. Paper 9). Szeged: Marketing Oktatók Klubja 20. Konferenciája.

[23] MNB (2016): Pénzügyi stabilitási jelentés. 2016. május, 9-12. oldal

[24] MNB (2016): Hitelezési folyamatok, 2016.február 7.oldal

[25] Palotai D. – Virág B. (2016): Versenyképesség és növekedés. Válasz Könyvkiadó, Budapest, 430-432. oldal.

[26] Pataki László, Széles Zsuzsanna, Baranyai Attila, Széles Z.(2014): External methods of financing for hungarian agricultural enterprises annals of the polish association of agricultural and agribusiness economists 5: pp. 191-195.

[27] Pataki László, Bárczi Judit, Földi Péter (2015): A jövőbeni teljesítmény előrejelzésének modellezése - maradványérték és tőke költség becslése, In: Resperger Richárd (szerk.) strukturális kihívások - reálgazdasági ciklusok Innovatív lehetőségek a valós és virtuális világokban (Programfüzet és előadáskivonatok): structural challenges - cycles in real business Innovative Possibilities in Real and Virtual Worlds (Program and Book of Abstracts). 104 p. , Konferencia helye, ideje: Sopron, Magyarország, 2015.11.12 Sopron: Nyugat-magyarországi Egyetem Kiadó, 2015. p. 53. 1 p , ISBN:978-963-334-264-0

[28] Réthi G. – Kása R. – Molnár L. (2014): A szolgáltatásminőség értelmezésének különbségei – percepcióvezérelt szolgáltatások minőségmodellje kialakításának első lépései. Prosperitas, 2(1), 26–42.

[29] Szegő Sz. (2014): A „cash and carry" pénzvilágától a többszintes pénzígérvényekig,

[30] Pénz-életvilág-pénzhálózati rendszerek, Polgári Szemle 2015.december - 11.évfolyam 4-6 szám.

[31] Szakály D. – Kása R. (2011): Felderítés és vadászat: A paradigmaváltás új fókusza - A technomenedzsment térhódítása. Magyar Minőség, XX(5), 34–45.

[32] Tóth P. (2015): A bankok is kimennek a divatból? Gazdaság 133. Szám-2015.október

[33] Tóth R. (2016): A magyarországi kis-és közepes vállalkozások regionális különbségei, Nemzeti Közszolgálati Egyetem, In.: Prof. Dr. Csath Magdolna Dsc. (szerk.): Regionális versenyképességi tanulmányok, Nemzeti Közszolgálati Egyetem, 978-963-439-001-5, pp.143-178.

[34] Túróczi Imre (2015): Modern vezetői számviteli módszerek, kontrolling a

logisztikában; In: Gyenge Balázs – Kozma Tímea (szerk.) (2015): Folyamatmenedzsment kihívásai; Döntési pontok, kapcsolatok és együttműködési stratégiák a gyakorlatban, Gödöllő, Szent István Egyetem, Gazdaság- és Társadalomtudományi Kar, Üzleti Tudományok Intézete, Tevékenység-menedzsment és Logisztika Tanszék, ISBN: 978-615-5570-02-5, pp.144.

[35] Túróczi Imre (2016): A versenyképességre ható tényezők a makrogazdaságban és a vállalkozások szintjén In: Gyenge Balázs, Kozma Tímea, Tóth Róbert (szerk.) Folyamatmenedzsment kihívásai: Versenyképességi tényezők a 21. században. 209 p. Budapest: PerfActa, 2016. pp. 37-49. (ISBN:978-963-12-7158-4)

[36] Várhegyi É. (2011): A magyar bankszektor szabályozása és versenyhelyzete a válságban Econ.core.hu/file/download/vesz2011/bankszektor.pdf. Letöltve: 2016.július 15.

[37] Várhegyi É. (2003): Bankverseny Magyarországon, Közgazdasági Szemle, L. évf., 2003. December, 1033–1035. oldal.

[38] Vonnák B. (2015): Növekedési Hitelprogram: kritikák és tények MNB kiadványok, Publikálás dátuma: 2015. március 13. 2.oldal.