

Tamás Bánfi – Gábor Kürthy – Attila Bánfi*

Regulation following (between) financial crisis (crises): compulsion and opportunity

SUMMARY: Volume LV/Fourth Issue of the Public Finance Quarterly, as a quasi thematic edition, contained five articles focusing on the recent financial crisis. The topic of our paper is also the crisis; without concentrating on individual countries or groups of countries, we focus on the world economy and the phenomenon in its entirety. The main aim was to try to describe and evaluate the operation of international institutions and the effects of financial regulations embedded into the economic system of developed and emerging countries. We assume that in addition to the non-satisfactory regulations, derived from oversimplified and overrated theories and models, the substantial distortions in the global institutional structure, leading to the explosion of the crisis, were also caused by the inherent egoism of human kind and the resulting excessive desire for profit. Even if future crises cannot be completely eliminated by changing the rules of the game, the probability and depth of similar events can be reduced and their duration might be shortened. In many instances the rules could be amended immediately, in some other cases the implementation of the changes requires a longer period of time. Unfortunately, the urge to act, which could be felt at the beginning and height of the crisis, has seriously diminished over time. The situation is paradoxical: humanity generally, but especially the decision makers – politicians and economic leaders – would not learn from their own mistakes.

KEYWORDS: crisis, regulation, bank, monetary policy

JEL CODES: G01, G18, G20

REASONS AND CONSEQUENCES¹

The process of the financial crisis started in the markets of developed countries, then, spreading over to the markets of emerging countries, it infected national and international financial institutions. Loose fiscal and expansive monetary policies constituted the reasons at macro level, whereas the appearance and spreading of uncontrollable financial innovations, originat-

ing from the continuously growing excessive liquidity, were the underlying reasons at micro level. The United States primarily strived to limit the fluctuations in the economy cycle, while the less developed countries of the euro area (Greece, Ireland, Portugal, Spain) attempted to reduce economic differences with ‘cheap’ domestic funds supplementing the funding within the Union. For the latter the interest rate level of the European Central Bank was also an institutional condition, which was justified and necessary in the more developed Member States (Germany), but became too low for the less developed ones, even resulting in a negative real interest in some cases.

Permanent excessive liquidity generated exces-

* We thank our (anonymous) proofreader, who exceeded his task by putting forward proposals and questions that highlighted the points, which required further elaboration. Of course, the responsibility for any further errors that remained in this paper lies with us.

sive demand. Nevertheless, inflation did not or only barely increased. This situation had its particular underlying reasons (Surányi, 2008):

- the excessive demand added to the current account deficit;
- the international flow of labour limited the increase in wages;
- the import prices that were calculated on the basis of the wage level in the Far East kept the price increase of domestic products under control;
- the excessive demand did not trigger a price increase of the products in the consumer basket that determine the consumer price index, but asset prices that are independent of the consumer price index, namely real estate and share prices grew considerably.

The measured price increases indicated slight changes, excessive liquidity did not seem extreme, and excessive demand took the standard of living, which can never be high enough, closer to desires.

In the United States, not only 80 per cent but 100 per cent of the selling price of new homes was lent, then – to reduce excessive liquidity – as much as 120 per cent, since new homes needed new furniture and new household appliances as well (Botos – Halmosi, 2010). The process in a mosaic-like manner is as follows: the financial institution strives to remove its limits to lending, securitises and sells its claims, whereas the buyer strips, repackages and produces the supply of securities that is in line with the desire of final savers. The original person of the debtor, their solvency and the collateral behind the debt are unknown, and the risk is immeasurable (Li, 2000). In a better case, the market turnover of repackaged securities is limited, in a worse case there is no market turnover, and thus their pricing is based on model calculations instead of market prices (Móczár, 2010a)².

There is no problem, and everyone is happy as long as the market is surging and prices are

increasing. Debtors are given as much loan as they want. The financial institution is able to satisfy all loan applicants. Consequently, its profit also satisfies the dividend requirement of the owners and the bonus expectations of the management. Those who repackage the securities can charge an adequate commission, and final savers can realise a risk free yield. At least this is what they believe until ‘the first domino piece falls down’, because that launches a compulsion to minimise losses that runs over the whole financial intermediary system.

Then they try to cool down the overheated economy by raising the interest rate (the central bank of the United States raised the base rate from 1 per cent to 5.25 per cent between July 2004 and July 2006, while the European Central Bank raised its rate from 2 per cent to 4.25 per cent between October 2005 and July 2008). Obviously, a higher central bank base rate results in an increase in lending rates, and the rapid increase in financing costs, in turn, drastically damages the solvency of debtors. An increase in the interest rate level decelerates the increase in asset prices (including real estate prices), then stops it, which eventually leads to a decline in real estate prices, resulting in a significant devaluation of the real estate collateral of mortgage loans. Becoming aware of the risks and being afraid of a decline in yields, savers that accumulate repackaged securities, considered to be risk free, would like to make their securities portfolios liquid. It immediately turns out that their pricing was independent of the market; it is only a calculated measure. They have to face not only the falling prices, but also the unsaleability of their securities. In the meantime, the quality of lending by financial institutions deteriorates drastically, some of the debtors become insolvent, while a portion of the collaterals becomes unsaleable, but even the sales revenue from selling them does not cover the principal and interest any longer. The initial liquidity problems of financial insti-

tutions rapidly turn into solvency problems, the volume of profit falls, institutions become loss-makers, and the shortage of capital results in near-bankruptcy situations.

The near-bankruptcy situation of banks paralyses the banking system as a whole, because the lack of trust among banks results in the collapse of the whole financial intermediary system. Banks suspend lending, the inter-bank market does not work either, and in addition to the money market, real economy also struggles with a serious liquidity shortage. The considerable excessive liquidity is soon followed by a major liquidity shortage.

Liquidity shortage could develop from excessive liquidity in a relatively short time only on the basis of an earlier financial innovation. The ‘accomplice’ is the so-called leverage. In the case of investment leverage (either upon the buying and selling of securities or creating futures positions) the required amount of own money (margin) necessary for conducting the transaction or opening the position is only a fragment (30, 20 or as little as 10 per cent) of the total amount of the transaction. The high capital leverage (in addition to the low margin requirement) extremely increases the risk, i.e. a small amount of own money deposit may produce extraordinary profits or losses. In the case of a position in the wrong direction (one may speculate on decline or increase), the margin requirement has to be made up for every day; therefore, the sustainability of the position depends on the liquidity of the investor. In the case of a shortage of margin the position is liquidated immediately, and the investment loss is realised.

FINANCIAL MARKET PARTICIPANTS AND TOOLS

There are many actors in this worldwide drama, and they are not necessarily equal in rank. Moreover, they are partly of historical nature

and partly present-day formations (institutions) (or at least cannot be originated from the old historical past), whereas the ‘stage properties’ are mostly the latest financial innovations.

The leading character, or should we say, the prima donna is the United States, the young hero is China, the elderly parents are the Member States of the European Union, while Russia is the intriguer. The large crowd of walk-on actors and extras consists of Brazil, India and the other emerging Asian countries, whereas the also large crowd of the audience is constituted by the African and Asian countries.

The most important ones of the existing institutions: the International Monetary Fund, the World Bank, numerous other international financial institutions, the euro area countries, central banks (the FED and the ECB in particular), the financial institution system, which is structured in the highest degree, national financial supervisory authorities, rating agencies, audit firms and last, but not least, the financial celebrities that are blessed with a prophetic vein.

Some of the well or wrongly regulated or non-regulated means of the financial system: liquidity and capital needs of banks, leverage (the extent of the margin), government debt and general government deficit as a proportion of GDP, the extent of stability, the inflation targeting system, rating agencies, auditors and the incentive system of financial institutions.

USA, CHINA, EUROPEAN UNION: MONETARY REGULATION AND GLOBAL IMBALANCES

The external financing position of the United States has shown a deficit since the early eighties. Initially, it was mainly financed by Japan, while during the recent one and a half decades it has been financed by China, India and the oil exporting countries, i.e. the surplus appears in

their balance of payments. As this process has lasted for decades, and only a few countries are participating in the funding, the external debt of the USA is large, and of the financiers mainly China's total receivables are extremely high. This phenomenon is called *global imbalances* in the scientific literature: it is about clearing imbalance, which is measurable. On the other hand, it cannot be measured and one may only suspect that there is also *real disequilibrium*, because in the opinion of many this process is unsustainable, and adjustment has to start eventually. In connection with this, experts are discussing the chances of hard or soft landing. In the former case they expect explosive change, which means a rapid decline in outstanding debt and receivables (depreciation) and serious real economy recession (Roubini–Sester, 2005; Eichengreen, 2006; Costabile, 2009). In contrast, soft landing means a slow and gradual reversal of the processes, without major damages (Bernanke, 2005; Hausmann – Sturzenegger, 2006).

The origin of financial crises is always the indebtedness of an economic agent, i.e. excessive consumption or excessive investment. The US subprime mortgage market events are only parts of the process; the whole US economy, both the private and the public sectors are highly indebted. Just to illustrate: the balance sheet total of Lehman Brothers amounted to 600 billion dollars when it filed for bankruptcy. In terms of its size, a corner in the People's Bank of China would provide enough room for this investment bank, because the dollar denominated receivables of the former are the multiple of the aforementioned amount. The seemingly large European debt stocks that were revealed after the evolution of the crisis are also insignificant compared to the total external debt of the USA.

A fundamental question relating to the financial regulatory system that is changing/to be changed may be: why was any market signal

(interest rate, exchange rate, inflation) not received regarding the developments outlined above? The answer dates back several years. Monetary policies have been calibrated to follow the rules since the eighties, indicating the stabilisation of consumer price inflation as the ultimate goal. Both in academic and practising circles Friedman's thoughts were accepted: (1) inflation is a monetary phenomenon, (2) monetary policy is not capable of (fine)tuning the real economy, (3) monetary policy can prevent money from being the source of economic problems (Friedman, 1986). In this ideology, monetary policies did not have to/were not allowed to do anything else but designate a concrete target, make a survey of the interrelations between the possible monetary instruments and the target (transmission channels), create rules based on this and then take decisions in line with the rules.

Inflation, however, is not only a monetary phenomenon: globalisation also means competition in the goods, services and labour markets, and this competition has a price reducing effect. In the early eighties, modern Western economies were still struggling with high inflation, but by the nineties and the early twenty-first century inflation fell considerably both in terms of its level and volatility. As inflation became moderate simultaneously with the establishment and operation of the new monetary policy systems, the general opinion was that a cause and effect relationship had to be found between the two, so monetary policy could be considered successful. However, this (mis)belief entailed serious consequences.

Even those – mostly transforming and emerging – countries adopted the monetary theory that did not comply with its conditions and (consequently) with its applicability either. The forced application of the incompatible monetary policy already contributed to the local crises of financial origin (Mexico, Asia, Russia) in the nineties, the scope of

which was smaller than that of the current crisis (Mishkin, 2007).

In economies where the selection of monetary policy was adequate at least in terms of its conditions (large, more closed economies, USA, EMU), we may speak of accommodative monetary policy and paradox credibility (Borio, 2003). The time horizon of monetary policies – where they want to reduce inflation, or, more exactly, its forecast – is typically 1.5–2 years. As forecasts suggest that price stability may be achieved over this time span, in spite of the increase in the prices of financial assets, real estates and commodities, there was no need for monetary tightening. This is accommodative monetary policy. According to monetary policy communication, price stability could be sustained under the existing conditions, and economic agents believed it. This is paradox credibility. It also needs to be mentioned that in the publications intended for the public, i.e. the ones that strengthen transparency,³ the achievement of the inflation target was always and everywhere connected with the achievement of real economy and financial stability. It means that in their opinion the achievement of the inflation target results in real economy and financial stability.

Feedbacks are missing from the above described causal determination; namely, in our opinion, the disinflationary processes of the pre-crisis decade(s) are attributable to real economy reasons. Due to the competition strengthening as a consequence of the aforementioned real economy globalisation, price increase was limited not only in the goods but also in the services markets. Taking account of the speedy technological development and improvement in quality, we may even speak about deflation. Namely, just like others (Borio – Lowe, 2002; Borio, 2003), we do not consider the exclusive role of monetary policy in price reduction as proven either. Examining in the same period the developments in quantity of

monetary or loan aggregates, where it is also justified to include the loan products stemming from financial innovations among the latter, we may speak about flatulence or proliferation. In parallel with the apparent price stability and output stability, risks accumulated in the financing markets, which was facilitated by monetary policy as well. (Of course, all this does not ease the consequences stemming from the operation of commercial banks and from ‘innovative’ products.)

In the pre-crisis decades, one of the important components of the US monetary policy was the Greenspan Put, named after the former FED Chairman *Alan Greenspan*. Starting from the late eighties, in the case of larger or smaller financial crises⁴ the FED pumped money into the markets to maintain asset prices. Consequently, the value of this put option appeared in the price of the assets, with which investors excluded the possibility of serious price declines from the financial products, as they could rely on central bank help in the case of a disturbance. It means that in the USA the role of the Lender of Last Resort (LLR) was also extended beyond the narrow sense of the banking sector well before the crisis, i.e. the FED provided liquidity not only to commercial banks but also to the players of the investment market. According to the classical thesis (Rochet – Vives, 2004), a central bank may act as a lender of last resort for banks in trouble only if strict conditions are met, i.e. primarily for liquidity reasons and only at an adequately high price (with penalty interest rates). The compliance with this restriction has to be enforced in order to prevent the spreading of *moral hazard*, otherwise market participants tend to take higher than necessary risks. In the USA, they not only failed to comply with this restriction for years, but even the field of activity was extended to institutions beyond the sphere of operation of the FED.

The situation was different in Western

Europe. Monetary policy was rendered independent of financial supervision and regulation. According to the principled justification, monetary policy would be hindered in its main effort if it had to watch over the stability of individual financial institutions or the institutional system as a whole. Namely, it may happen that liquidity has to be regulated by changing the interest rate in order to protect financial stability when the change is not supported by the logic of inflation targeting (see details below). Accordingly, it is not possible to act using one tool in order to attain two targets, and it is mostly unnecessary as well, because long-term monetary stability (price stability) leads to financial stability.

Although the US and West European monetary policies were based on the same principles, they differed in terms of the practices they followed. Subsequently it is easy to say that both practices proved to be wrong. Due to the global nature of markets, financial market investors are not affected by and not even interested in the scope of monetary policies. The movements of financial asset prices strongly correlate throughout the world, partly due to real economic reasons and partly due to psychological reasons. Consequently, the value of the Greenspan Put may have appeared in the prices of European financial products as well, the practical intermediary channel of which was the overseas assets purchases of large European banks.

Accordingly, the proliferation of financial markets was fed by various macroeconomic factors. The significant financing needs and surpluses stemming from the global imbalances supplied the markets with liquidity. As the USA is (was) the economy to be financed, and it can afford becoming indebted in its own currency – which opportunity is called *original sin* in the financial markets (Eichengreen – Hausmann, 1999) –, the initial liquidity of debt products is ensured. The real economy projection of global imbalances, i.e. the price and

wage reducing competition originating from Asia spoiled monetary policies and resulted in their paradox credibility (mainly in Europe). The (false) sense of security of economic agents was fed by the trust in the ability and willingness to provide liquidity of the US central bank.

The bankruptcy of the Lehman Brothers investment bank, more exactly the fact that the US financial government did not rescue this institution, may be considered as the first sign of the change to come in the regulation of financial markets. Of course, we cannot know what the decision makers were thinking of, but letting the bank go bankrupt can be interpreted as the beginning of a new era,⁵ in which the players in the financing market cannot take assistance from the central bank for granted. This is the medium- or long-term future. However, as a result of the direct effect of the Lehman bankruptcy, the crisis became more severe, and at the same time, perhaps, it was also revealed that the players who had extended loans in an unbridled manner understood the message from the government. The deepening of the crisis and the real economy recession are the consequences of restrained lending almost everywhere. The reason why large banks do not lend is not only that they are afraid of the credit risk, but also that they cannot rely on the unconditional assistance of the central bank any longer.

What happened on 15 September 2008 should have taken place 10 years earlier, when the LTCM had been rescued. The bankruptcy of a financial corporation has a disciplinary force in the market: shareholders lose assets, the management loses jobs and reputation, and the business partners and counterparties that have a relationship with the given corporation as well as institutional creditors also suffer from the bankruptcy. They want to avoid all this in the future, so the disciplinary force may even have long-term macroeconomic effects.

As it has already been mentioned, a financial crisis always starts with the indebtedness of a participant in the real economy. It is hypothetical, cannot be proven, but presumable: if the LTCM had not been rescued in 1998, the behaviour of US banks in the subsequent years would have been more prudent, which eventually would have resulted in less private sector loans. As the source of the net outstanding loans of the USA is abroad, the tightening of domestic lending conditions improves the external position and mitigates global imbalances.

INFLATION TARGETING AS TECHNICAL MEANS OF MONETARY POLICY

The inflation targeting system is extremely easy to apply. First of all, the government and the central bank agree on the inflation target. The central bank prepares the quarterly reports on inflation, which, deducing from a model, describes the inflation rate expected on the time horizon of the inflation targeting. Once a month the monetary decision making body evaluates the relationship between the inflation target and the projected inflation, together with the already received actual figures, then raises or reduces the interest rate depending on the direction of the deviation from the inflation target. This is the basic scenario, from which deviations are possible in both directions.

What is the problem with it? First: what should the inflation target be for the given period, knowing that the ultimate goal is the achievement and maintenance of price stability, the extent of which cannot be determined exactly? Second: how long does it take to achieve price stability? Third: is interest rate policy an adequately efficient means to attain the target? Fourth: does price stability enjoy priority over all other macroeconomic indicators irrespective of place (country) and time?

The answers to these questions are given below.

The government and the central bank may jointly adopt a specific inflation target. (A different practice is also possible, when the government independently determines the inflation target, and the central bank has to attain it with its own means.) Only price stability can be the ultimate inflation target (although its level does not necessarily have to be the same in a developed or in an emerging country). Theoretically, there are three possible situations: the country that applies inflation targeting has already reached the level of price stability and its maintenance is the objective; or the current inflation rate is higher than the adopted price stability level, and it will be possible to meet the target as the outcome of a disinflationary process; or inflation rate is below price stability, which also allows the easing of monetary policy instruments (primarily the central bank base rate), which, in turn may result in an increase in inflation rate as well. In the second case the period of attaining the ultimate goal requires a decision. This period may vary, depending on the efficiency of monetary policy instruments, the inflationary/disinflationary effects of national economic policy and on external shocks. It is conceivable that the disinflationary process is not very long, and the ultimate inflation target can be met already within the realistic time horizon of monetary policy, which is usually estimated to be eight quarters. Otherwise, the level of the inflation target may be lower year by year, but the ultimate goal (the level of price stability) will only result from a disinflationary process of several years. If the process is hastened and an unfounded target is announced, it has to be admitted every year that the target has not been met. And the reason is not that the monetary policy of the central bank was wrong; in fact, the target was unfounded. The situation may even be worse, if the central bank wants to achieve the target literally at any price. For example, by repeatedly

raising the interest rate, so that, as a result of the increasing interest rate spread, the inflow of short-term funds will strengthen the domestic currency to an extent that leads to a spectacular decline in import prices. Thus, although the target that can be considered unfounded is met, the interest rate level, which was raised too high, and the other negative effects of the overvalued currency exchange rate burden the national economy. Growth decelerates, export orientedness declines, while import orientedness increases. The most serious consequence of the negative processes is the decline in employment and labour market activity.

There is no explicit proof that interest rate is the most efficient tool for attaining the inflation target. It is especially true for small, open economies, where – according to our assumption – the exchange rate channel is the more efficient means compared to the interest rate channel. What we can state with great certainty is that in small, open economies the import price increase resulting from the depreciation of the exchange rate exerts its effect directly, without transmissions, whereas the reduction of the central bank base rate can have an effect on global demand through several transmissions, through which it may stimulate inflation. In Hungary and many other small, open economies, through the revaluation of the assets and debts held in foreign exchange, the indirect effect of the exchange rate has a much more significant impact on domestic demand than the interest rate.

The disinflationary effect of the appreciation of the exchange rate is conditional and depends on the importer's decision: whether he wants to realise the increase in his sales revenue instead of a price reduction or wants to attain an increase in profits by generating additional demand through reducing his prices. A step corresponding to exchange rate appreciation is the raising of the central bank interest rate level, which can have a disinflationary effect

also only through several transmissions. It can be stated with great certainty also that any instrument has more effect on the inflationary than on the disinflationary process.

We do not wish to undervalue the social impact of inflation, but we think that it would also be a mistake to overvalue it. If the inflationary process can be kept under control, an inflation rate that is higher than price stability or price stability defined as a higher-level inflation rate, which is practically the same, is acceptable, provided that in the economy it is triggered by a decline in unemployment and inactivity, i.e. an increase in employment.

The system of inflation targeting is disputable in itself, even at a theoretical level, because it explains the dynamics, and cannot be interpreted for the levels. If the expected inflation is below or above the set target, the reduction or the raising of the interest rate, respectively, is justified. However, it is not possible to answer and justify what interest rate level belongs to a concrete inflation rate and vice versa, what inflation rate a specific interest rate level corresponds to.⁶ If the possible interest rate cuts fail to be carried out repeatedly, and then – even due to external reasons – the central bank is compelled to raise the interest rate not once, a significant difference in interest rates evolves compared to other countries in spite of the identical inflation rates, which – in case of a liberalisation of short-term monetary movements – results in speculative monetary movements and volatile exchange rates. The statement then can be made, based not on a theoretical objection, but on practical experience, that central bank decision makers are more flexible when there is an opportunity to raise the interest rate compared to the situation when there is an opportunity for cutting the interest rate.

But what could be applied in lieu of inflation targeting? The exchange rate can definitely be a solution in open economies. Of course, even if

only the inflation forecast is named as the intermediary objective of monetary policy, the central bank may not decide on neglecting exchange rate developments, even if it is not declared.

CHANGES IN THE INTERNATIONAL REGULATION OF FINANCIAL INSTITUTIONS: BASEL III – SUPERVISORY SYSTEMS

The renewing financial regulation takes two fundamental problems into consideration: the procyclical nature of the regulation to date and the unique institutional practices, due to which the financial system did not mitigate the shocks, but amplified and spread them instead. The capital adequacy rules implemented within the framework of the Basel II may be capable of institutional level risk management, but with regard to the institutional system as a whole they are problematic. Pursuant to the rules, banks always have to have a minimum size of a capital, determined on the basis of the risk-weighted total assets. If risks increase, the bank has to raise capital or it has to reduce its assets stock, as this is the only way to be able to maintain the minimum level.

Accordingly, regulatory capital does not serve as a buffer, because the bank cannot use up its capital stock when the risks are realised, as it would breach the rules by doing so. When the models indicate risks at several banks simultaneously, the capital adequacy requirement narrows the lending activity at system level. Stricter lending conditions, decline in lending and the *fire sale* of bank assets may result in real economy recession, which further impairs the quality of existing loan portfolios, making the regulation that aims at the mitigation of banking risks procyclical.

There may be three arguments for capital regulation (Agliatta – Scialom, 2009): it provides a buffer against insolvency, influences the

assumption of risks and facilitates timely measures by supervisory authorities. These objectives may contradict one another (Hellwig, 2008). According to the current regulation, capital adequacy can be calculated on the basis of the risk-weighted total assets, which indeed makes banks examine the extent of risk assumption. However, timely supervisory intervention would be facilitated much better if we forgot about risk weights, as it is difficult for authorities to understand the internal models of banks, and we determined a simple threshold figure for the capital/total assets value. The capital accumulation of banks, which is called *economic capital* under the current circumstances, serves the interests of shareholders: it depends on the shareholders' willingness to take risks how big a capital they want to accumulate. Distinction can be made between economic capital and *regulatory capital*, the accumulation of which protects the interests of taxpayers: it has to be of a sufficient size that does not require the use of taxpayers' assets even in the case of a system-level shock.

The time horizon of the Value at Risk (VaR) models used in the calculation of risks is too short; therefore, they miscalculate risks. During an upturn, general economic volatility is low, whereas it is much higher during of recession. Due to the short time horizon of the models, too little and too much reserves have to be created in the event of an upswing and downturn, respectively, i.e. procyclicality stems not only from the minimum capital requirement, but also from the properties of the models used for the calculation of risks.

A further problem is to form the risk weights applied upon the calculation of capital adequacy; banks apply them on the basis of the recommendations of credit rating agencies. Credit rating and the steps of banks taken on the basis of credit rating are also strongly procyclical. For example, if the cred-

it rating of a security worsens on the basis of the ratings, banks may put large quantities of it on the market, which will probably further impair the chances of the given paper. Banks create provisions to cover expected loan losses, but the prevailing regulation acknowledges the provisions as capital elements only to a limited extent. Provisioning is usually implemented if banks perceive problems in connection with a loan extended, for example, the borrower fails to repay his debt after a certain period of time. However, the deterioration in the general indicators of the real economy and financial environment does not force banks to apply provisioning. Consequently, it may happen that they do not have real provisions when problems arise en masse.

Theoretically, in addition to the regulations stipulated by law, market discipline may also enforce capital accumulation and provisioning: this condition is expressed in the third pillar of the Basel II package. If, however, everybody is moving in the same direction in the market, market players' quantitative and qualitative interrelationships are unknown and unforeseeable for banks and supervisory authorities, the disciplinary force of the market gets lost.

The arguments against the Basel regulation – and some other arguments as well – were expressed already prior to the crisis, or even before the implementation of the package of proposals (Danielson, 2001), but the fears were ignored or taken into consideration only at an academic level. The opponents' most important argument was that risks are endogenous, i.e. they develop within the system, based on the stakeholders' interactions (as well), and the three pillars of the Basel II cannot (could not) do anything with it. To date, institutional level regulation and supervision have kept microprudential issues in mind, and nobody has paid attention officially to systemic risks, although mainly the researchers of BIS (Bank for International Settlements) laid great emphasis

on the necessity of macroprudential regulation years before the crisis (Borio – Lowe, 2002; Borio, 2003; Sorge, 2004; Borio – Tsatsaronis, 2005; Shin, 2006).

The securitisation implemented in the US financial markets poses a further challenge to regulators, which is not regulated in the Basel II. The essence of the operation is that the loans extended are financed with securities issues, i.e. not by collecting deposits. From the financier's aspect the advantage of the securities issue is the liquidity of the investment, as they do not have to wait for the maturity; if they need money, they can sell the papers in the market at any time. The issuer, in turn, may create securities in a structured manner, in line with various risk classes, thus targeting a wider scope of potential buyers. As the buyers of the securities are protected from the maturity by the liquidity of the papers, i.e. the existence of secondary markets, theoretically, long-term securities can also be issued. Economically it is justified to cover lending for 15–20–25 years with securities of similar maturities; nevertheless, this is not what happened. The underlying reason is in the rising yield curve; short-term securities mean cheaper funding. Although the process started in the USA, during the years it spread over to European markets as well. *Maturity mismatch* between loans and resources increased considerably. Moreover, the relevant regulation is almost completely missing from the currently valid system.

The aforementioned problems would probably have appeared even if the regulatory and supervisory systems were uniform. Although the Basel II proposals package was implemented by legislators all over the world, taking account of the characteristics of local markets was widely permitted. Consequently, in practice, the application of more than one hundred member state and supervisory discretions became possible (Hungarian Financial Supervisory Authority, 2010), which made the

already complicated system even more confused. In addition, accounting standards are not uniform either; there are significant differences between the IFRS (International Financial Reporting Standards) used in Europe and the GAAP (Generally Accepted Accounting Principles) used in the USA. Prior to the crisis, the model-based pricing (which is called *fair value accounting* by clearing systems) allowed by the GAAP became widespread. With this method, assets can be indicated in the balance sheet or in off-balance-sheet lines at a higher value than their current market price, which may even result in a loan cover rate higher than 100 per cent. However, models are highly sensitive, as they estimate future values, which are in fact unknown; their expected or perceived changes practically take place 'as said'.

In order to eliminate the contradictions in the Basel regulation and to standardise the supervisory systems, the Financial Stability Forum (FSF) that had been working within the framework of the G-7 since 1999 was reorganised into the 'Financial Stability Board' (FSB) under the aegis of the G-20 in 2009. On European level, in turn, the European Systemic Risk Board (ESRB) was set up. Primarily based on the researches of the BIS and the IMF as well as on the experience of the crisis, the FSB drafts proposals and directives, which are mainly elaborated by the ESRB. The latter is also called European super-watchdog, but it is worth formulating our related doubts in advance. Individual financial institutions and their possible scopes of activities are always permitted, regulated and supervised in accordance with the laws of a Member State. Individual Member States may and do adopt community level proposals, but practically only local legislators and lawmakers as well as law enforcers have the opportunity to influence the operation of institutions. We cannot speak of a super-watchdog until there is no single legal order, because until then any institution estab-

lished at community level is considered to be an outsider. A further problem is that, based on the implementation processes that took place in the last two years, the legislators and law enforcers of the USA seem to circumvent several points of the proposals, and allow regulatory convergence only to an extent that is in line with their own discretion. Fault lines between Europe and the USA as well as within the Member States of the European Union continue to exist.

The set of proposals became known as Basel III, but the materials of the FSB also contain an abundance of recommendations that apply not only to banks and were not drafted for individual institutions, but for the institutional system as a whole. In any case, the main emphasis is on the reform of the Basel II. Within this framework, capital regulation is being changed in a manner to address its procyclical behaviour described above. For this, in the period of economic upturn banks have to accumulate additional capital, which may serve as a buffer, i.e. can be reduced, in case of a downturn. The institution-level minimum capital requirement will remain in place, but will be complemented by *dynamic provisioning* required at individual and consolidated levels. Theoretically, the size of this provisioning has to be in line with the expected losses, which the current risk appraisal models are unable to calculate properly. Several proposals were formulated in order to handle this problem. According to one of them, banks would be obliged to accumulate capital partly irrespective of the risks, i.e. not the risk-weighted total assets, but the balance sheet at accounting value would matter in calculating the leverage ratio. According to the other proposal, the VaR based method would partly be replaced by stress tests (FSB, 2009). Dynamic provisioning is not planned to be included in the regulatory capital,⁷ which only comprises the minimum capital requirement and the capital buffer.

The changes in the rules concern not only the quantity of the capital, but also its quality. From now on, only the shares listed and paid up as well as retained earnings would belong to the Tier 1 (basic) capital elements. Anticyclical measures would limit the distribution of banks' earnings as well. According to the proposals, until the capital of the bank reaches the sum of the minimum capital requirement plus the capital buffer, payments to shareholders (dividends, repurchases of own shares) as well as payments to the management (bonuses) could be limited. These same payments would constitute the basis of the valuation reserve as well that should be created on the basis of assets that do not have a real market, and therefore their value in the balance sheet is only based on model calculations. To date the practice has been that the revenue collected on the basis of such assets was allowed to be immediately distributed either as dividend or bonus; now all this would conform to the economic cycle.

Two types of liquidity indicators will be introduced in the new system; one of them will measure the short-term, 30-day liquidity of the bank (Liquidity Coverage Ratio – LCR), the other one will calculate the amount of funds required for refinancing within the year (Net Stable Funding Ratio – NSFR). This completely new regulation was made necessary not only by the crisis experience, but also by the transformation of financial intermediation, i.e. by securitisation. The 30-day liquidity requirement will be tied to the results of the relevant stress tests,⁸ and a relatively narrow scope of liquid assets will be determined. It is debated whether to require the central bank eligibility of assets classified into the scope of liquidity, i.e. whether the given asset should unconditionally be accepted by the (national) central bank. The annual liquidity requirement is balance sheet based; it requires the availability of stable funds for the

total assets portfolio and also for individual asset types separately.

In order to mitigate systemic risks, counterparty risks, which mainly arise in the case of interpenetrations between institutions and in over the counter (OTC) derivative transactions, have to be taken into account upon capital accumulation more strictly than earlier. If the exposure of a financial institution to another financial corporation is greater than a certain threshold value, a higher than usual risk weight has to be applied for this transaction. In accordance with the proposals, the risk weight of derivative transactions where there is no central counterparty, i.e. no clearing house is involved, would increase significantly. If the rules formulated on the basis of the latter recommendation prove to be effective, it will add to the transparency of interbank derivative transactions, because it will direct them to the organised market.

Transactions with high counterparty risk include the case when a bank in an emerging country borrows from its parent bank or from a bank in another developed state, and the loan is denominated in a currency other than the domestic currency of the borrower. This area has mostly been unregulated, but pursuant to the proposals of the FSB the risks that can be taken with foreign exchange transactions should be limited, and a system should be set up that is able to provide ex post assistance. Namely, in the case of a shortage of liquidity, even their own central bank can only provide limited help to commercial banks with foreign currency exposure, as its reserves are also limited. Currency swap markets are unregulated. Consequently, the general mistrust that increases in the case of a shock may put the banking systems of emerging economies in a difficult position, even if their lending was prudent before the occurrence of the shock. Although it is not named, the need for setting up international infrastructure that provides

final liquidity is taking shape from the recommendations of the FSB. However, the concrete form of the organisation that would play the role of an International Lender of Last Resort (ILLR) is still doubtful.

In the new system to be set up, supervisory authorities will deal with systematically important financial institutions (SIFI) separately, because they carry higher than average systemic risks. Based on the proposals, the authorities could require individual, stricter than usual adequacy ratios regarding the SIFIs. According to an even more rigorous recommendation, the scope of activity and size of these institutions could be limited.

The language of the consultation documents that prepare the changes in the rules is diplomatic, and the criticism they express in connection with the institutions, products and procedures that caused the crisis is covert and understandable almost only for those in the know. At the same time they point out the ultimate goal on several occasions, i.e. the regulatory system cannot remain unchanged, in spite of the fact that, perceiving the economic turn, this is what the players in the financial sector have been expecting recently (FSB, 2009). A risk assumption system in which the profits are received by the owners and managers, while the losses are incurred by the governments and taxpayers cannot be permitted any longer. The newly established organisations are aware of the fact that their proposals are only recommendations, which have to be confirmed separately by the legislatures of individual states, i.e. the cooperation of national authorities is also necessary. What will happen, if they do not act accordingly? The strictest sanction that has been put down in writing was the release of the list of non-cooperating organisations, which practically shows the weakness of the efforts.

The proposing organisations leave a relatively long period of time for the introduction of

the new regulation, because the capital increase that meets the recommendations might push economies into recession again over the short term. However, the profitability of financial institutions has been increasing again during the recent year, so it is proposed that the produced incomes should not be allowed to be distributed, but should be used for filling the necessary capital buffers. From this aspect a conflict may arise between regulatory authorities and governments, because the latter may also – rightly – lay claim to banks' profits, as in many cases the survival of banks required assistance from governments.

ABOUT THE OBJECTIONABLE INTERNATIONAL RATING AGENCIES

Three international rating agencies rule over the international financial market. Perhaps their weights are not equal; Fitch is the third behind Standard & Poor's and Moody's. Their market role is enormous, their activity is uncontrollable. One would need extraordinary imagination to accept their independence and impartiality in financial processes. Of course, nothing 'wrong' can be proved; at best we can mention some of the striking oddities.

Just some questions that the managements of rating agencies should answer. How could the financial institutions that went bankrupt and required state intervention receive positive ratings prior to the financial crisis? How come that they did not anticipate the fall of Lehman Brothers? How do they calculate the highest score given for the debt of the United States of America (the amount of liabilities is around 70 trillion dollars, which exceeds the annual GDP of the world; more than half of the states of the USA – e.g. California, Illinois – are close to financial bankruptcy)?

All the three *large credit rating agencies* are private companies, the transparency of their

ownership is questionable. It is strange and surprising that the group of owners comprises companies (investment funds, banks) that have to be rated from time to time. Moreover, the three agencies are not even independent of one another, because directly or indirectly they have common owners as well.

They made several serious mistakes before the financial crisis. They not only failed to indicate the weakened financial position of Lehman Brothers, but the rating of the debt instruments of the bank was excellent with each agency. On the day when Lehman filed for bankruptcy, they downgraded its papers to the lowest category simultaneously. The government securities of the strongly indebted USA received the best ratings from all three agencies not only prior to the crisis, but they have been receiving the best ratings even following the eruption of the crisis.

Greece, which had been in a critical situation originally as well, was downgraded several times during the crisis, which made the financing position of the Greek state even worse, because it became increasingly difficult and expensive for them to have access to market funds. The European Central Bank expressed its dissatisfaction with the activity of rating agencies officially as well, and even the establishment of a European rating agency that is independent of the private sector was suggested. Experts of commercial banks speak even more harshly: in their opinion, someone always benefits from the downgradings. Namely, if somebody 'has a hunch' of an imminent downgrading, it is enough for them to short the currency or government securities of the economy concerned to make huge profits. Knowing the owners of the rating agencies, who make a living from financial operations, this type of profit-making cannot be excluded, if we want use a very careful wording.

Intervention is unavoidable, and it has to be drastic. Substituting the three agencies with a

newly founded independent rating institution, accepted by the European Union, is justified and inevitable. A business association is not necessarily the ideal form. Perhaps the model of the establishment and operation of the International Court of Justice could be followed.

AUDITORS – AUDIT

Listed companies in developed countries are obliged to have their annual financial statements and related annual reports audited. With respect to non-listed companies, statutory auditing is a requirement for different company size in every country. At financial institutions independent auditors verify the ratings of lending (loans) and investments, and the risk-based provisions allocated pursuant to such ratings.

Securitisation of receivables from financial institutions, repeated decomposition of securities and their recomposition in different structures have hidden actual risks even from auditors. The identification of actual risks requires as much professional competence as is required for designing and implementing the constructions themselves. There may be some chance that professional auditors could not and cannot keep pace with the fast proliferation of financial innovations. Employees at financial institutions have mastered professional specification at such high levels that appointed audit firms could only control by having employees with similar qualifications. Such a requirement is not impossible to fulfil, but it would entail a new pricing of audit fees and would result in a significant rise of prices.

In addition to merely professional issues, there is also the problem of the audit market. 90 percent of listed companies are audited by members of the Big Four, that is Deloitte, PwC, Ernst & Young and KPMG, which

implies that only four audit firms dominate almost the whole of the market. At present it is the periodic rotation of chartered accountants working at audit firms that may be achieved, there is no rotation for audit firms. The consequences: new firms, or smaller established firms cannot acquire market shares from the Big Four, but it is the four audit firms that circulate, and after a not too long period within the circle, the same audit firm is appointed once again. To put it very mildly, for decades audit firms have been living in close symbiosis with firms that need auditing. To change this, legal intervention would be required.

In addition to their extreme market concentration, the Big Four audit firms may be criticised for another aspect as well. All audit firms have offer tax consultancy departments. According to official comments, auditing and tax consultancy are divided by a non-transparent internal partition. Nevertheless, without attempting to analyse the non-transparency of this partition, it would be reasonable to require that both auditing and tax consultancy be pursued as separate business activities. In other words, each one of the Big Four (as well as all other smaller firms engaged in the same business) should be pursuing only auditing or only tax advisory activities. The two together cannot, in particular, guarantee either the neutrality or the independence of an audit.

We should specifically address the possibility and practice of transfer pricing in relation to international tax optimising. The largest proportion of international trade is carried out among affiliated companies with the highest tax risk. Group transfer pricing applied for transactions between group companies is closely related to the offshore phenomenon, as it may be used to reclassify revenues to tax havens. When deciding on the location of the company registration or when designing specific transactions, treaties on the prevention of double taxation may also be determinant. It

may be worth choosing a country with higher dues if it has concluded a wider range of treaties.

A key issue is, however, the future of tax havens or offshore transactions (Péli, 2010). We cannot, at this point, forecast whether or not this mechanism, so deeply embedded in economy, may be eliminated. Clearly, the situation cannot be expected to change substantially, at least for the foreseeable future, but methods may be modified or refined. We may assume that the billions accumulated in decades cannot be “absorbed” at a rapid pace, further inducing the existing instability of the economy. The several million incorporated and operating businesses have been an integrated part of world economy, they are legally related to onshore companies, share ownership of assets, high value licenses or real estates and are parties to framework agreements concluded for several years. These are legally established and operated companies, and their rapid liquidation could give rise to unpredictable consequences. There will always be countries or islands which welcome investors. Today even the smallest islands can adopt their own legislation which may be subject to international treaties, but it cannot be prescribed for them how they develop their sovereign laws. However, this is not the point. However questionable the offshore activities of small countries may be, until it is the USA and the United Kingdom that offers the best tax avoidance opportunities for non-residents, no significant achievements can be made in combating the exodus of capital. Based on the size of company incorporations, the world’s largest tax haven is the United States. In addition, four companies simultaneously engaged in auditing and tax consultancy activities (Big Four), which operate in all countries of non-negligible economic importance, cover the majority of the market and they, incidentally, optimise tax payment on their own activities as well.

MANAGEMENT OF FINANCIAL INSTITUTIONS AND THE INCENTIVE SCHEME OF TRADERS IN FINANCIAL INSTITUTIONS: LEGAL REGULATION IS REQUIRED TO REPLACE AUTOREGULATION

The majority of smaller financial institutions and all of the financial institutions of considerable size are listed on stock exchanges. Listed companies tend to have a scattered shareholder structure, which implies that a management body with suitable professional competence and strategic tactics can exercise a forceful control over committees that represent shareholders or owners who attend the annual general meetings. Besides/instead of the owners' longer term interests, the short term interests of the management may be served, and as practical experience shows, they have been served indeed many times.

In recent years, news broadcasts have reported on huge management bonus payments on quite a few occasions. The announcement of such payments caused massive public outrage particularly before, during and after the financial crisis.⁹ The management – particularly at financial institutions - can increase short term profitability by taking higher than usual risks, which pays them extra bonuses under incentive schemes defined for any one year, irrespective of the fact that as a result of excessive risk-taking, profitability will drop in the years following the year of the bonus payment. It is almost tragicomic when a financial institution, after being saved by government intervention (in other words: a financial institution saved from the taxpayers' money) repays the loan granted by the state as soon as the most critical moments are over and at the end of the financial year announces the bonus payments its management will receive. It is not only a serious infringement of ethical norms, but an unacceptable lack of regulations (Barabás, 2011).¹⁰

Regulation - in principle - is being developed at a rapid pace. At the Pittsburgh Summit held on September 24–25, 2009, G-20 countries first issued a declaration on the necessity to design a global framework scheme that provides for the alignment of compensation plans to long-term objectives and risks. At Pittsburgh, the G20 approved the implementation standards for the principles defined by the FSB, and have, in turn, started the implementation of such principles at the national level in the member states.

The implementation standards aim at achieving global consistency with FSF principles so as to allow for the implementation of the regulated compensation practices issued on April 2, 2009 (hereinafter: FSB-principles). In order to provide market players with equal opportunities in competition, FSB prescribes the following for “the most prominent players of financial markets”.

- ▶ Remuneration and prudent risk-taking shall be aligned, particularly with respect to the deferral of payments, the structure of compensations and the introduction of clawbacks.

- ▶ Efficient governance of compensation plans shall be a part of corporate governance, but a supervisory body needs to be set up to review compensations and risk-taking.

- ▶ The supervisory authority shall be provided with deeper insight, and the role of shareholders should be strengthened, including a simplified disclosure of the compensation plan, particularly that of executives and employees with the most influence on the risk exposure of the financial institution.

At the same time, in April 2009 the Committee of European Banking Supervisors issued its high-level principles for Remuneration Policies (hereinafter: CEBS principles). The national supervisory bodies of European Union member states undertook the obligation to implement these principles in the financial institutions in their respective country. The major difference between FSB and CEBS prin-

principles is that while the former focus on the remuneration policy of senior executives and employees whose activities may significantly impact the risk-taking of the company, the latter shall be applied to all employees.

In 2009 the European Commission also made arrangements to promote the implementation of new compensation standards at the financial institutions of the European Union, but neither the Council nor the Parliament has adopted specific directives. In January 2010 the Basel Committee on Banking Supervision (BCBS) issued a methodology guide for supervisory authorities on how they can check the accomplishment of the FSB principles at financial institutions. In addition, the BCBS initiated that the compensation requirements be included in the second pillar of Basel II.

Although the CEBS principles are applicable to a wider scope of employees, it would still be reasonable to reconsider the financial incentives of traders at financial institutions. In any comparison, the target-related bonus they are provided is extremely high, while their achievement is, in part, due to circumstances beyond their control and their extreme pursuit of good results may even cause market anomalies.

The conclusion we may draw from recent years is that expecting that autoregulation be adopted was indeed reasonable yet futile, which suggests that external regulations are inevitable.

IN LIEU OF CONCLUSIONS: PERSONAL RESPONSIBILITY SHOULD REPLACE REGULATORY SYSTEMS

Since the 1930s, not only business schools whose academic and research activities may actively change the market, or bureaucrats who are responsible for economic policies, but sometimes even politicians understand that expectations may influence the market. It is therefore not surprising that if their expecta-

tions can indeed influence markets, then the majority of stakeholders is not content with only adjusting to general expectations but would rather take the initiative to actually make a change with their own ideas. In the product and labour markets where meeting demands and coordination can take a lot of time and money, expectations may facilitate the shortening of such adjustment processes. In money markets, dealing is fast due to the nature of traded instruments, and while costs may be high, the yields that one can earn in a very short time are also outstanding. As the bottom line of the financial market game is zero, high yields are offset by equally high losses on the other side of the transaction(s). There may be a significantly larger economic impact and force on one side, and lower on the other, and the intervention risk may be substantially lower for units of higher market power than for smaller ones, and profit maximisation may be faster, as well. “The survival of the fittest.” Nevertheless, in an economic context how certain can we be that it is always the small fish that disappears and the large one that survives?

Specifically: until the autumn of 2008 credit rating companies, large audit firms and institutions of the money markets have concealed the risk of repackaging/reconstructing financial instruments, issued and sold by financial institutions to the widest audience of both private and institutional investors. Their pricing was manipulative, irrespective of all markets, while, to put it mildly, their collateral was uncertain. Panic broke out, everybody wanted to escape, but it was too late and the only reasonable objective was to mitigate losses. Later on, losses were realised, politicians promised prompt and drastic measures, reassuring everyone that the same mistakes cannot be made again. Well, not the same; but they can make another mistake, which is almost the same. There are no fundamental institutional changes, and the impact of the events that occurred is minimal.

Oracles and prophets always emerge at critical times to spread their forecasts and prophecies in the interest of mankind, the nation or just for the sake of their own personal responsibility. Or is it only marketing, a hype to improve the show? What is disturbing or even unacceptable is that their endeavours actually increase losses instead of mitigating or preventing them.

Let me illustrate this with a few examples on a small, open and (let's admit is) vulnerable Central European economy. In the midst of the economic crisis, an independent analyst who worked for one of the largest banks of the world stated a projected share price for the largest bank of the small Hungarian economy. With HUF 1000 (USD 5), the projection was approximately 30–40 percent lower than the market subscription at the time. From disclosed information, however, it was known that the outlook for the large bank that stated the projection was negative, while the outlook for the aforementioned Hungarian bank was stable.

Another example: one of the largest credit rating companies threatens country *A* with downgrading because its government does not want to (or is not able to) decrease the country's budget deficit. A few months later, the same credit rating company threatens the same state with downgrading as they believe that it does not adequately urge economic growth. What can we do to make the credit rating company satisfied?

These days it may also happen that a popular, professionally acknowledged economist who teaches at a renowned university states, declares that in the upcoming years some Central Eastern European states, which strive to balance their budget, may fall victim to their own economic reforms, suggesting that Romania, the Ukraine and Hungary may declare bankruptcy any time. It would be good to know, though, whether this highly-qualified scholar is familiar with all the economic and financial data of these countries. Does he have

adequate information on the plans and reform concepts of the governments of these states? If the consequences are so clear and there is a solution, why does he not offer help? Why does he want to do harm, and why does not he want to prevent or mitigate damage?

Why aren't there forecasts or predictions on the economy of the United States, which, up to this date, has been believed to be robust. What would happen if – all of a sudden – China should change its economic, exchange rate and reserve policies? It's better not to write or even talk about it; instead, let's just hope that this is not the interest of China in the short-term. And in the long run?

IN LIEU OF AN EPILOGUE

Once again we may ask: what are the similarities between the crisis of 2008 and the crisis of 1929–1933? Can we draw parallels between the two economic processes whether in terms of their development or in terms of their evolution? We firmly believe, it cannot be done. One was a crisis of the real economy, while the other was a financial crisis arising from the disharmonious operation of the financial sector. The institutional framework and the instruments of the two periods are so different that were it not for a force of argumentation, no states of identity could be concluded from comparisons of any sort. Let us just consider the following: central banks used to regulate money supply to a gold standard, and with the collapse of the gold standard (which happened at the time of the 1929–1933 crisis for a reason) it needed to be (or should have been) adjusted exclusively to the money demand of the market; the relation between public debt and the economic cycle might have only existed in the ideas of *Keynes*; in proof of the liquidity trap, it was an acceptable assumption that money owners could only choose between long-term government bonds

with fixed interest rates or holding cash, while even to give an overview of the possibilities of present day would be a time-consuming process. (And we could long go on listing.) We should not disregard the current role of China: there is no analogy to that.¹¹

According to the mainstream economic concept with roots in the neoclassical theory, markets and market-based societies have self-correction mechanisms which can stabilise economy without any external interventions. Therefore, the liberal economic policy which arises from this theory, strives to minimize government, central bank and regulatory measures. The crisis of 2008 revealed that both the theory and the economic policy stemming from that theory were found not to function well, because markets could not automatically stabilise, and what is more, they themselves induced a crisis and instability. Loose regulations could not mitigate processes either *ex ante*, before the emergence of the crisis, or *ex post*, after the end of the crisis. Therefore both areas

need to be reviewed, namely the economic theory and the economic policy and regulations, which are not independent. Our opinion correlates with that of *Móczár* (2010b), who – when discussing the current state of economics – concludes that in formulating economic theories today scholars should focus more than earlier on market imperfections, or risks that can never be perfectly modelled in the financial world; that is, on economic realities.

The title of our study is indicative of a gap in our knowledge: we cannot resolve the V- or W-dilemma. What we know is no more than this: harmonic cooperation between countries, or groups of countries that dominate world economy may hinder the W pattern, but this is subject to the fulfilment of stringent conditions. Political leaders should join forces in reconsiderations and undertake joint action. New regulations can only be imposed on the financial system; autoregulation with adequate actions and of adequate extent is mere illusion. Let's hope for the best.

NOTES

¹ This introduction is a brief summary of the development of the global financial crisis to provide a solid basis for the understanding of the subsequent events. Here we assume that the latest financial innovations are known; our readers can find their interpretations and definitions in the study by *Móczár* (2010a).

² Li's copula function used for the pricing is described and classified in more detail by *Móczár* (2010a).

³ Publications that present monetary policy; reports on inflation; reports on stability.

⁴ At the times of the 1987 stock exchange crisis, the 1997 Asian crisis, the 1998 Russian crisis in connection with the rescue of the LTCM and following the September 11 terrorist attacks.

⁵ Even if it should turn out subsequently that the decision was a result of an 'accident' or misunderstanding.

⁶ Theoretically, within model frameworks, the numerical relationship between inflation rate and interest rate can be determined (*Móczár*, 2008, 549–561).

⁷ Regulatory capital is different from the usual notion of capital used in accounting, because equity capital is complemented with hybrid elements, such as subordinated liabilities. They are not considered capital in a legal sense, but in an economic sense they behave like that, because in case of a trouble they can be used for satisfying the claims against the bank.

In international literature, the Tier 1 and Tier 2 notions of capital are used: the former corresponds to the basic capital elements in the Hungarian practice, whereas the latter to the additional and complementary capital elements. Basic capital elements include equity capital minus valuation reserves and dividend preference shares, plus the basic loan capital. Tier 2 capital includes the other subordinated lia-

- bilities and the valuation reserves. The simplest wording is that the Tier 1 capital is available unconditionally, whereas the Tier 2 with limitations. Tier 1 and Tier 2 together constitute the regulatory capital used in the Hungarian terminology.
- ⁸ Stress tests check and measure the stability of a bank or the banking system under extreme conditions. During the test, an external shock is presumed, which can be of real economy (for example an increase in unemployment) or financial (for example a decline in market liquidity) origin, and it is examined how the loan portfolio quality, capital adequacy etc. of the bank changes/would change as a result.
- ⁹ For illustration, here is a small fact: when the chief executive of one of Europe's largest banks was forced to leave, he was 'punished' with severance payment of EUR 40 million. And the date: April 2011.
- ¹⁰ The study of Barabás (2011) addresses only the issue of regulation of remuneration at financial institutions. Until now, in the Hungarian literature it was only Móczár's article (2010a) that highlighted the compelling requirement for regulating remuneration plans at financial institutions: "several remuneration schemes rewards risk-taking performance in the short term. This gives an incentive to trading partners to also assume endogenous risks, which are not recognised by the system, through which they can generate an income even if in fact it is only a risk premium (market risk premium) (page 731).
- ¹¹ Let's face it, the lack of similarities between the Great Depression and the financial crisis of 2008 could only be proven by refuting every single similarity described by some. In the absence of that, we can only make the enormously immodest statement that we agree with Keynes.

LITERATURE

- AGLIETTA, M. – LAURENCE, S. (2009): "A systemic approach to financial regulation. A European perspective." Paper provided by University of Paris West – Nanterre la Défense, EconomiX in its series EconomiX Working Papers with number 2009–29.
- BARABÁS, T. (2011): "A pénzügyi javadalmazások „reformja”: válasz a pénzügyi válságra." ("Reforming' remuneration in financial institutions: response to the financial crisis") *Hitelintézet Szemle*. Volume 10., No. 2., pp. 161–171
- BERNANKE, B. S. (2005): "The Global Saving Glut and the U.S. Current Account Deficit". Web.http://www.federalreserve.gov/boarddocs/speeches/2005/200503102/
- BORIO, C. (2003): "Towards a macroprudential framework for financial supervision and regulation?" *BIS Working Papers*. No. 128.
- BORIO, C. – LOWE, P. (2002): "Asset prices, financial and monetary stability: exploring the nexus." *BIS Working Papers*. No. 114.
- BORIO, C. – TSATSARONIS, K. (2005): "Accounting, prudential regulation and financial stability: elements of a synthesis." *BIS Working Papers*. No. 180.
- BOTOS K. – HALMOSI P. (2010): "Jelzálogpiacok az Amerikai Egyesült Államokban és Európában."
- (“Mortgage markets in the US and in Europe”) *Pénzügyi Szemle*. Volume 55., No. 4., pp. 781–790
- COSTABILE, L. (2009): "Current global imbalances and the Keynes Plan. A Keynesian approach for reforming the international monetary system." *Structural Change and Economic Dynamics*. (20), pp. 79–89
- DANIELSON, J. – CEATING, C. – SHIN, H. S. – GOODHART, C. (2001): "An academic response to Basel 2." Paper provided by Financial Markets Group in its series FMG Special Papers with number sp130.
- EICHENGREEN, B. – HAUSMANN, R. (1999): "Exchange Rates and Financial Fragility." *NBER Working Papers*. No. 7418
- EICHENGREEN, B. (2006): "Global Imbalances: The new economy, the dark matter, the savvy investor, and the standard analysis." *Journal of Policy Modeling*. (28), pp. 645–652
- FRIEDMAN, M. (1986): "The Role of Monetary Policy." In.: Riesz Miklós (edit.): *Infláció, munkanélküliség, monetarizmus*. ("Inflation, unemployment and monetarism"). Budapest, Közgazdasági és Jogi Könyvkiadó, pp. 221–239
- HAUSMANN, R. – STURZENEGGER, F. (2006): "Global Imbalances or Bad Accounting? The Missing

Dark Matter in the Wealth of Nations.” *CID Working Paper*. No. 124.

HELLWIG, M. (2008): “Systemic Risk in the Financial Sector: An Analysis of the Subprime-Mortgage Financial Crisis.” Paper provided by Max Planck Institute for Research on Collective Goods in its series with number 2008_43

LI, D. X. (2000): “On Default Correlation: A Copula Function Approach.” *Journal of Fixed Income*. (4), pp. 43–54

MISHKIN, F. S. (2008): “Inflation targeting in Emerging Market Countries.” In: Frederick S. Mishkin (ed.): *Monetary Policy Strategy*. The MIT Press: Cambridge, Massachusetts, pp. 271–278

MÓCZÁR J. (2008): “*Fejezetek a modern közgazdaságtudományból.*” (“*Chapters from Modern Economic Theory*”) Budapest, Akadémiai Kiadó

MÓCZÁR J. (2010a): “A globális pénzügyi válság anatómiája és tanulságai.” (“Anatomy and Lessons of the Global Financial Crisis”) *Pénzügyi Szemle*. Volume 55., No. 4., pp. 727–749

MÓCZÁR J. (2010b): “A közgazdaságtan válsága.” (“The Crisis of Economic Science”) *Magyar Tudomány*. (171), pp. 318–330

PÉLI É. (2010): “Offshore helyett nemzeti adózás.” (“National Taxation Instead of Offshore”) In: Bánfi Tamás (ed.): *Adózó munkaadók és adózó munkavállalók a korrupciómentes gazdaságban, (Taxpaying Employers and Taxpaying Employees in a Corruption-Free Economy)* Budapest, Tanszék Kft., pp. 71–84

ROCHET, J. – VIVES, X. (2007): “Coordination Failures and the Lender of Last Resort: Was Bagehot Right After All?” In Jean-Charles Rochet (ed.): *Why Are There So Many Banking Crises?* Princeton University Press, pp. 37–70

ROUBINI, N. – SETSER, B. (2005): “Will the Bretton Woods 2 Regime Unravel Soon? The Risk of a Hard

Landing in 2005–2006”, Web. <http://www.frbsf.org/economics/conferences/0502/Roubini.pdf>

SHIN, H. S. (2006): “Risk and liquidity in a system context.” *BIS Working Papers*. No. 212.

SORGE, M. (2004): “Stress-testing financial systems: an overview of current methodologies.” *BIS Working Papers*. No. 165.

SURÁNYI GY. (2008): “A pénzügyi válság mechanizmusa a fejlett és a feltörekvő gazdaságokban.” (“Mechanism of the Financial Crisis in Developed and Emerging Countries”) *Hitelintézeti Szemle*. 7, no. 6., pp. 594–597

SURÁNYI GY. (2009): “Fedezetlen devizapozíciók – Súlyos gazdaságpolitikai hiba vagy természetes folyamat?” (“Unhedged Foreign Exchange Positions – A Serious Mistake in Economic Policy or a Natural Process”), Web. <http://www.penzugyututato.hu/files/Sur%C3%A1nyi%20GyorgyFedezetlen%20devizapoz%C3%ADci%C3%B3k.pdf>

FSB (2009a): “Improving financial regulation – Report by the FSB to G20 Leaders”, Web. http://www.financialstabilityboard.org/publications/r_090925b.pdf

FSB (2009b) “Report of the Financial Stability Forum on Addressing Procyclicality in the Financial System”, Web. http://www.financialstabilityboard.org/publications/r_0904a.pdf, 2009b.

FSB (2010): “Overview of Progress in the Implementation of the G20 Recommendations for Strengthening Financial Stability”, Web. <http://www.fsa.go.jp/inter/fsf/20100702/03.pdf>, 2010.

PSZÁF (2010): (Hungarian Financial Supervisory Authority) “Várható változások az európai tőkeszabályozásban” (“Expected Changes in European Capital Regulations”), Web. http://www.pszaf.hu/data/cms/2181134/Varhato_valtozasok_az_europai_tokeszabalyozasban.pdf