Difficulties in the management of the global financial crisis: academic and economic policy lessons*

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In this paper, we examine the causes and economic policy lessons of the fact that – compared to previous recessions – the global economic crisis which started in 2007 and intensified in 2008 appears to be deeper and more lasting, and the recovery is taking longer. We demonstrate that the financial crisis may be regarded as a special balance sheet recession accompanied by portfolio imbalances, which alone explains why the present downturn results in higher macroeconomic costs than a recession taking place in the traditional business cycles. The current fragile recovery is also explained by the incorrect diagnosis and management of the nature of the crisis, and the effect of misconceived economic theories and policies which were widespread before the crisis can also be demonstrated in this regard. One of the economic policy lessons learnt from the balance sheet recession and the rather unsuccessful European crisis management is that there is a need for countercyclical fiscal policy, which during times of downturn provides sufficient leeway for the management of a balance sheet recession and, by increasing the deficit, may support balance sheet adjustment by actors in the private sector. The present financial crisis also highlighted the fact that without proper prudential regulation the self-regulation capacity of the market is limited under the modern financial system and is inefficient in preventing the build-up of financial instabilities. Regulation must be transformed so that it takes the macroeconomic nature of the financial instabilities into consideration. In accordance with this, the monetary policy strategy must be also reconsidered to ensure that the financial processes and the financial stability risks receive increased attention, in addition to real economic considerations. All in all, the individual economic policies should support the recovery of the real economy without building up excessive financial imbalances. If no proper economic policy response is given bearing these principles in mind, the balance sheet recession may continue over the long run or become a recurring phenomenon.

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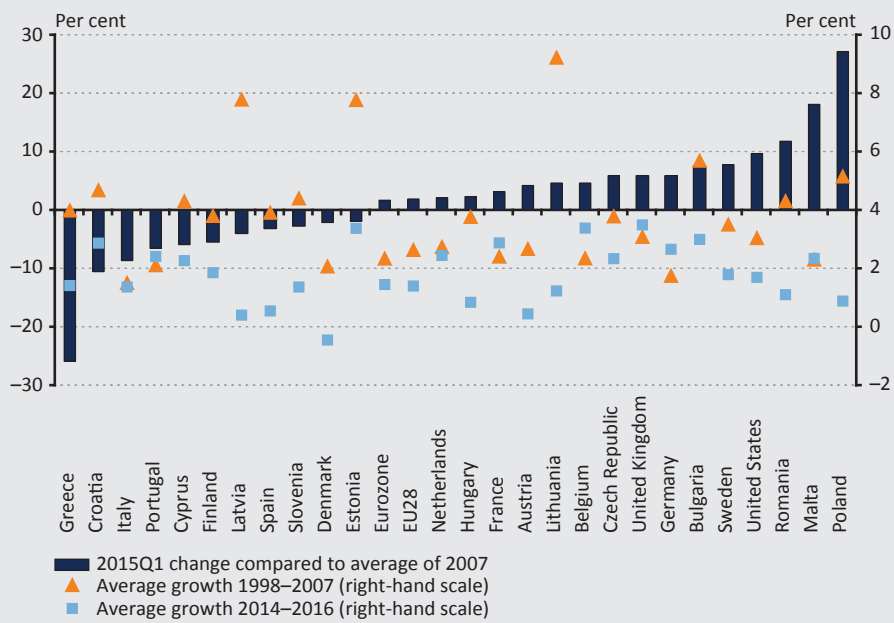
1. Assessment of the global economy

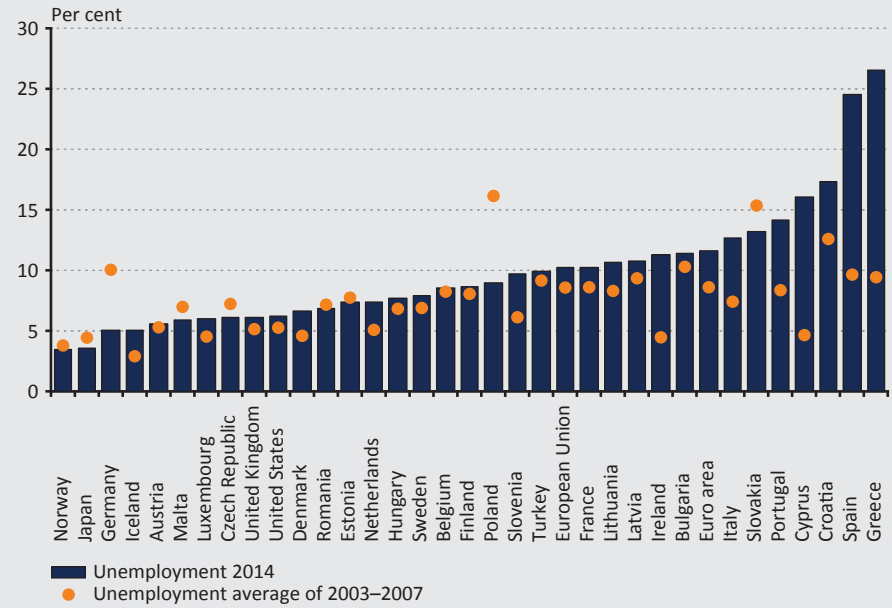
Recovery from the global economic crisis that started in 2007 and intensified in 2008 appears to be longer compared to the previous recessions (*Figure 1*). Although global growth last year came close to its historical average, the recovery is still fragile and there are substantial differences between regions. The recovery continued in the developed countries, which was more visible in the United States and in the United Kingdom, and more moderate in the euro area and in Japan (*Figure 7*). At the same time, the emerging countries lost momentum and within this group there are also significant differences between countries. Seven years after the crisis, output still lags behind the production capacities in most countries and unemployment – an indicator often referred to due to the uncertainties in the measuring of the output gap – is still high, especially in the euro-area countries (*Figure 2; MNB 2014*).

Figure 1.
Average output growth before and after the financial crisis



Source: European Commission (2015)

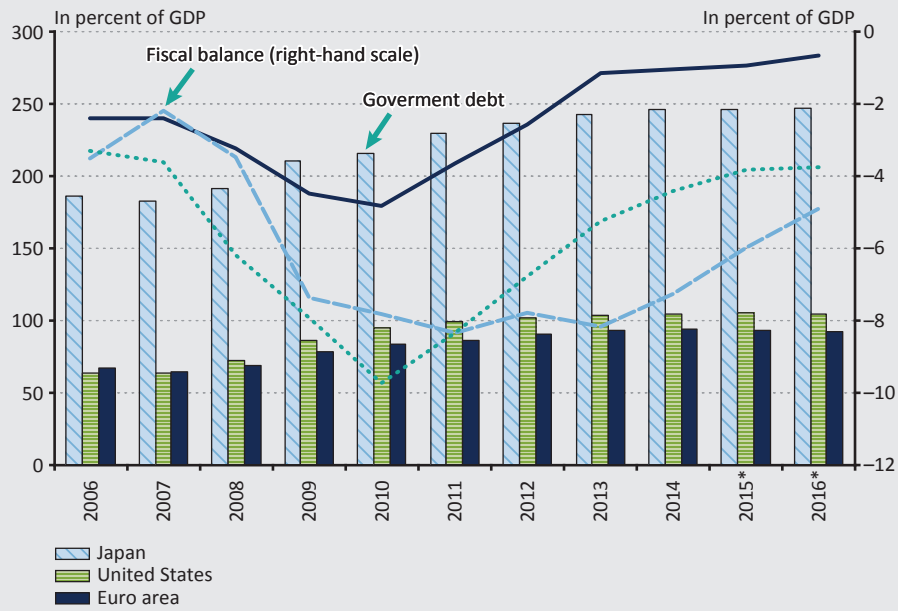
Figure 2.
Unemployment rates before and after the financial crisis



Source: Eurostat (2015)

Substantial improvement in long-term growth prospects is hindered by the fact that *most developed countries have high government debt.* By the end of 2015, the gross debt-to-GDP ratio may reach 120 per cent in the developed countries, while it was 75 per cent on average before the crisis (*BIS 2015*). In certain countries, outstanding government debt was also increased – in addition to the fiscal deficit – by direct debt assumptions such as, for example, bank recapitalisation. In the future, this will substantially reduce the room for fiscal manoeuvre. Following the initial years of the crisis, fiscal deficits temporarily fell in the global economy, but on the other hand, in certain countries the deficit was high from the outset, while in other countries the deliberate increase of expenditures caused further increases in deficits, the collective purpose of which was to curb and stop the economic decline. On the whole, the outstanding debt-to-GDP ratio continued to increase both in the developed and in the emerging countries (*Figure 3*).

Figure 3.
Fiscal deficit and government debt

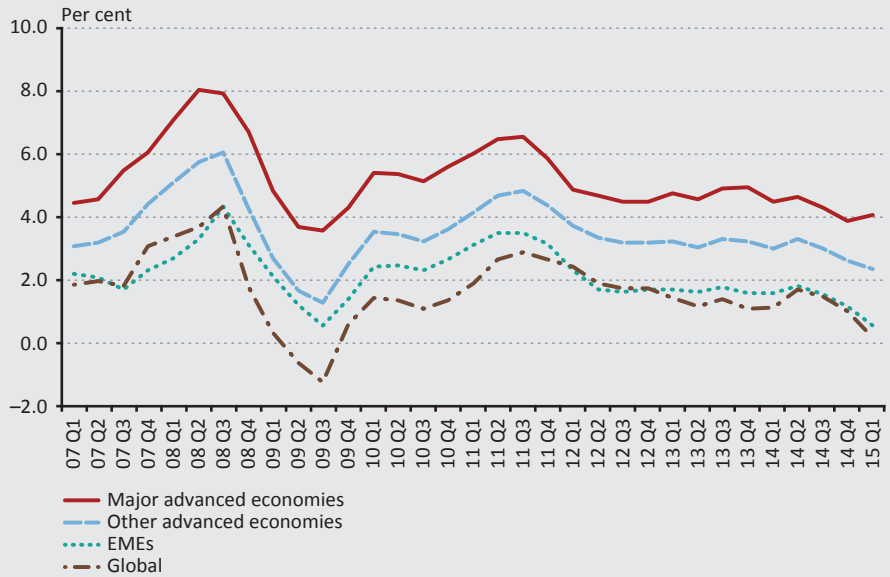


Sources: IMF WEO; IMF Fiscal Monitor
** forecast*

In recent years, inflation fell in most countries and looking ahead the indicator is also expected to remain below the target (*Figure 4*). The unexpectedly low inflation seen in recent months is to a large extent attributable to volatile factors such as oil prices. At the same time, the core inflation measures – eliminating the food and energy prices in addition to the oil prices – were also low, which raises the question whether the inflation trends are dominated by the medium-term (cyclical, financial) or the long-term (secular, real) factors (*BIS 2015*).

It can thus be seen that both output and employment are lagging behind the pre-crisis peak in several developed countries. The unfavourable consequences of the pre-crisis debt overhang on investments and productivity can be still felt. Although fiscal deficits have typically fallen in recent years, outstanding sovereign debt is still high, which is primarily attributable to the slow economic growth that followed the downturn. Globally, the poor real economic performance is accompanied by a trend of decreasing inflation. In the rest of this paper, we examine the factors that may contribute to the fact that even seven years after the outbreak of the crisis the global economy's performance is still moderate. *Compared to the recoveries that usually follow recessions, the present slow recovery is partly attributable to the fact that a global financial crisis erupted in 2008, prior to which economic agents*

Figure 4.
Development of inflation rates



Source: BIS 2015
Notes: Consumer price index: Major developed countries: euro area, Japan, United States. Additional developed countries: Australia, Canada, Denmark, New Zealand, Norway, Sweden, Switzerland, United Kingdom. Emerging countries: Argentina, Brazil, Chile, China, Taiwan, Columbia, the Czech Republic, Hong Kong, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Russia, Saudi Arabia, Singapore, South Africa, Thailand, Turkey.

– typically the private sector – had become overly indebted, which was followed by major cuts in their expenditures. Although such financial or balance sheet recessions are typically followed by a slower recovery, the fragility of the recovery may also be attributable, to some extent, to the mistaken economic policy reactions to the balance sheet recession. In this paper, we elaborate on these potential explanations.

The advanced economies were surprised by this crisis both intellectually and institutionally. The pre-crisis dominant or mainstream economic policy mix – which is also often referred to as the Brussels-Frankfurt-Washington Consensus[1] after *Fitoussi and Saraceno* (*2004*) – may be regarded as the application of the so-called New Keynesian Model. At the time when this was created the economic governance system of the European monetary union was also based on this dominant economic policy knowledge. The less successful crisis management in Europe highlighted the

[1] For more details on the most important elements of the Brussels-Frankfurt-Washington Consensus, in the context of the euro area, see *MNB* (*2011*) Section 1, and Table 1-1 of subsection 1.3.

fact that a number of basic assumptions and economic policy guidelines of this economic policy framework proved to be false.

In the following, we also deal in more detail with the fact that the mainstream economics was based on the assumption of the markets' self-regulation and self-adjustment, where independent monetary policy is able to fine-tune the remaining moderate cyclical movements and the consequences of the external shocks via short-term interest rates. According to the consensus, monetary policy and financial stability goals are independent of each other;[2] the primary objective of the central bank is to ensure price stability, and financial stability is achieved as a by-product thereof. The role of fiscal policy in this fine-tuning is minimal, as it is implemented primarily through the operation of the automatic fiscal stabilisers, and it must be limited mostly to ensuring the proper functional frameworks for the markets. If the conduct of the private actors is not distorted by extra-market factors, the above-mentioned institutional frameworks ensure the achievement of outcomes close to the social optimum.

It became clear during the crisis that this approach is based on a number of erroneous basic assumptions. Price signals led actors on a path that later proved to be unsustainable; price stability was accompanied by severe financial system risks and open banking crises, i.e. macroeconomic stability proved to be insufficient for achieving financial stability. In addition, in managing the private sector's debt overhang, fiscal policy accumulated volumes of debt that were previously seen only during wartime. The unprecedented expansion of monetary policy during crisis management was still insufficient to mitigate the severe consequences of the crisis to the expected level, and thus the demand-stimulating fiscal policy, inspired by Keynes, also appears to be essential.

2. Special features of balance sheet recessions

One of the possible explanations of the present economic processes described in the previous section, is the balance sheet recession and the balance sheet adjustment phenomenon.[3] The term 'balance sheet recession' was first used by *Koo* (*2008*) for the Japanese recession in the 1990s, generated by the corporate debt overhang, during which instead of the maximisation of their profit, the enterprises focused on the minimisation of their debts, and as such they used their revenues for reducing

[2] According to Anna J. Schwartz – a colleague of Milton Friedman – financial stability is a by-product of macroeconomic stability. Before the financial crisis this monetarist approach was also part of the economic mainstream.

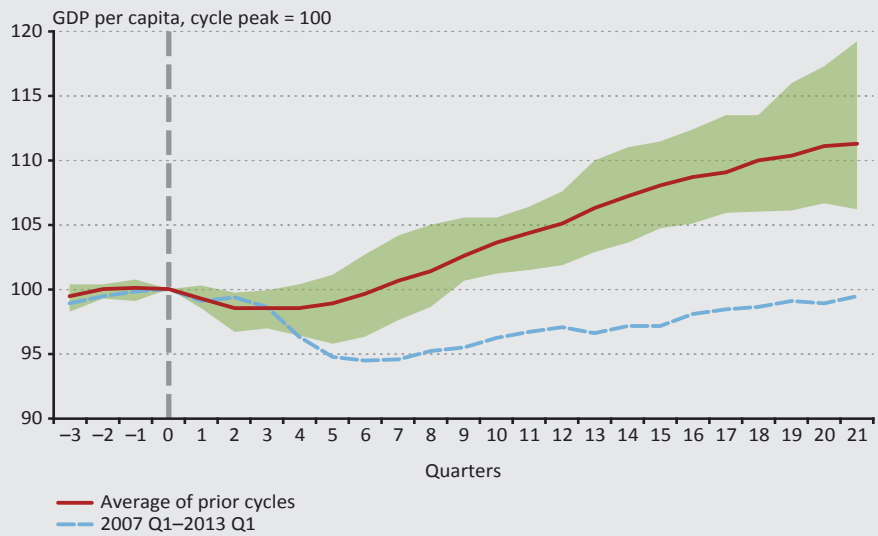
[3] According to another possible explanation, economic slowdown in the developed regions had started before the outbreak of the financial crisis and the low growth rates are here to stay also in the post-crisis decades. According to this explanation – while it acknowledges the significance of the explanation related to the balance sheet recession – the long-term stagnation is attributable to structural and real economic changes. For more details on this, see *MNB* (*2015*) subsection 6.1.

their existing debt. In the sense of Koo, *balance sheet recession is a widely-used term for all recessions in which – after an unsustainable financial boom resulting in the accumulation of high debts – economic agents drastically increase their savings and cut their consumption and investments expenses.*

2.1. Dynamics of balance sheet recessions

The underlying reason for the current balance sheet recession is that in the years preceding the financial crisis, in a period of sustained upswing coupled with low and stable inflation, economic agents – households, governments and often even banks – became highly indebted. After the burst of the asset price bubble, the agents realised that while they had to repay their accumulated debts, the value of the assets securing their debts (e.g. properties) had substantially decreased. The accumulated outstanding debts may be reduced by savings from current revenues, which is a time-consuming process when indebtedness is high. However, as a result of the increased uncertainty and stronger savings motivations, due to the slower-than-expected growth rate of revenues, growth in savings may also prove to be slower than intended.[4] As a result of the this, balance sheet recessions are much more protracted in terms of the economic output than the traditional business

Figure 5.
Output in previous recessions and after the current financial crisis



Source: Atkinson et al. 2013:4

[4] The phenomenon, when the outcome achieved as the interaction of the individual saving intentions frustrates the original intention, is referred to – after Keynes – as the "paradox of thrift". It refers more generally to the fact that macro-level outcomes cannot be derived mechanically from simply adding up the individual intentions. We regard Keynes as one of the forerunners of modern macroeconomics due to this and other similar insights.

cycles and thus they are also much more expensive than a usual recession: they are deeper, followed by a weaker recovery and generate a lasting loss in the output level, while the financial sector is also severely damaged (*Figure 5; Koo 2014*).

Figure 6 illustrates the dynamics of the balance sheet recession outlined by Koo (*2008*). The outbreak of a balance sheet recession is preceded by the bursting of the asset price bubble, which formed as a result of economic agents' excessive optimism about the future. The bursting of the bubble may be attributable to the tightening of monetary policy in response to the overheating in the economy, but it may also collapse on its own.[5] The plunge in asset prices causes considerable damages in the balance sheets of the private sector, forcing them to reduce their debts. During the deleveraging process, the efficiency of traditional monetary policy lessens and it will not regain its former efficiency until such time as the private sector completes deleveraging and its willingness to borrow strengthens sufficiently. In addition, the interest rate channel of monetary policy weakens, and the efficient operation of the exchange rate channel is also hindered by several factors.[6] Accordingly, fiscal policy is able to play a material role in supporting aggregate demand through timely fiscal stimulus of sufficient length. At the same time, the pressure to reduce debts may cause such a trauma for most economic agents that the aversion to borrowing may remain a determinant factor even after deleveraging.[7]

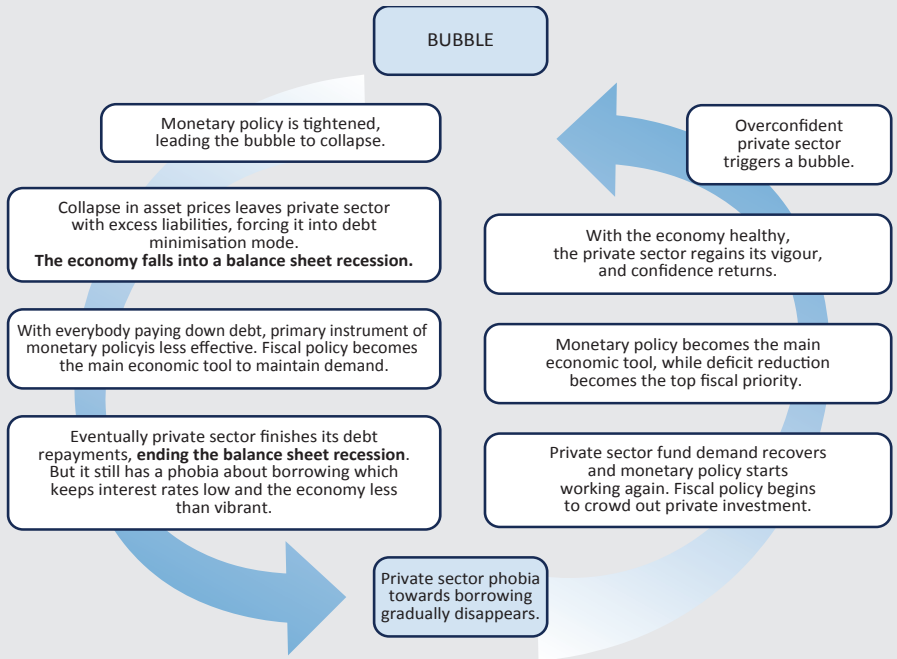
For actors in the private sector, it takes a rather long time for fears of repeated indebtedness to fade and for confidence to strengthen, and thereafter the implementation of the investments – which may as well be based on debt overhang – and the build-up of the next bubble take decades, or even generations. This is attributable to the fact that those who once experienced the consequences of the bubble bursting will not commit the same mistake again, and thus the next bubble will not burst until such time as the previous generation that went through the previous one forms part of the labour force.

[5] *Borio* (*2012*) demonstrates that in the first decades of the post-war period the bursting of bubbles was typically attributable to the tightening of monetary policy and the private sector's sharp changes in sentiment after financial liberalisation in the 1980s.

[6] It may occur that – with accommodating monetary policy – weakening of the exchange rate may also contribute to consolidation of balance sheets, due to the fact that depreciation has a favourable impact on the output and the income flow. (The example of the Scandinavian countries illustrates that an export-driven creditless recovery is one possible way of recovering from the financial crisis.) This may be hindered if economic agents have foreign currency-denominated debts, because then the weakening of the exchange rate reduces disposable income in the short run. It can be also less efficient in the case of large countries with closed economies, because such policy may give rise to undesired exchange rate appreciation and capital inflows in other countries, especially when the economic and financial cycles are not synchronised (*Borio 2012*). Finally, *BIS* (*2014*) also mentions that if everybody resorts to weakening the exchange rate it would have a negative overall effect and the domestic costs thereof would exceed the resulting benefits.

[7] This is confirmed by previous experiences; for example, following the crisis in 1929 the actors that adjusted their balance sheet typically never borrowed once again in their lives; or, after the completion of the Japanese companies' balance sheet adjustment around 2005, there are still no signs of increased willingness to borrow, even at the current, historically low interest rate levels.

Figure 6.
Dynamics of balance sheet recessions and adjustment



Source: Koo 2008, p. 160

When the economy expands strongly (right side of the Figure), private-sector balance sheets are sound and companies strive to maximise their profits. In this period, the significance of fiscal policy lessens, as the increase in fiscal expenditures may crowd out private investments. However, forward-looking economic agents have strong credit demands, and thus monetary policy plays a major role in the stimulation of the economy and it may work with adequate efficiency. On the other hand, in periods of economic downturn (left side of the Figure), the opposite statements are valid: as a result of declining asset prices, private-sector balance sheets are hit severely and the actors focus on reducing their debts. In this phase, *the efficiency of traditional monetary policy tools decreases, as the private sector's demand for funds – through which the interest rate channel of monetary policy could exert its impact – practically disappears.* In view of the fact that the government is not in the position to force private actors not to focus on deleveraging, it can only act in the opposite manner, i.e. by borrowing the savings accumulated by the private sector and returning it to the income flow. Accordingly, fiscal policy becomes crucially important, which is also attributable to the fact that the crowding-out effect does not appear, as the private sector is repaying its debt rather than taking loans for new investments. Based on these considerations, Koo proposed

attaching much higher importance to fiscal stimulus, inspired by Keynes, in crisis management, in addition to the easing policy of the central bank, just like it was proposed by Keynes in connection with the management of a crisis that was similar to the current one in many respects.[8]

2.2. Balance sheet recession as portfolio imbalance

A common mistake in the current mainstream literature and the economic policy responses to the current balance sheet recession is that they ignore the special features of balance sheet recessions and fail to manage them accordingly. In the case of the traditional business cycle, the problem to be managed is that the economy becomes overheated, as demand exceeds potential output, and this generates inflation and – in open economies – an excessive foreign trade deficit. In such situations, the objective of adjustment is to curb the growth rate of aggregate demand to a level consistent with the sustainable rate of output growth. This requires the restraint of incomes – in certain cases even in the absolute sense – in order to prevent overheating and the potential accumulation of excessive internal and external indebtedness; depending on the specific situation, this can be achieved by cutting fiscal expenditures and tightening monetary conditions, or by a combination of these.

However, a balance sheet recession that has developed as a result of financial imbalances is different in nature; in contrast to the aforementioned flow imbalance, it represents a stock or portfolio imbalance, the optimal management of which is also different. As described above, a balance sheet recession is such stock imbalance, which builds up when "flow" imbalances can accumulate over a longer period or when economic agents take large value loans for purchasing certain high-value financial or real assets. Repayment usually takes place over several years from current incomes, but there are also cases when it is financed from the market appreciation of the asset purchased from the loan (e.g. in the US housing market before the crisis). The tight connection between the market value of the asset – as collateral and source of revenue – and current income can be perceived from this in such a context.

The value of the assets depends on the demand for them, which may deviate from the "fundamental value" of the assets,[9] especially when it is easy to take out

[8] See *Koo* (*2008*) Chapter 3: The Great Depression was a Balance Sheet Recession, pp. 85–124. Koo elaborates on the constraints of Keynes – giving credit to his achievements – or event more to the constraints of those who later cited Keynes. It should be borne in mind that the work of Keynes, and particularly his chief work entitled *General Theory of Employment, Interest and Money* is interpreted in several ways. In the above, Koo criticises primarily the mainstream interpretations. We regard the interpretation by *Hayes* (*2006*) and *Tily* (*2007*) – contrary to the mainstream interpretation – as authentic, which in our view does not contradict to Koo's basic argumentation.

[9] Fundamental value means the market value that is confirmed by the actual cash flow of the securities (share dividend, bond interest or property rental income) in the future. This depends on whether the income that provides the holder with cash flow is indeed generated. Naturally, securities are negotiable, but the buyers assess the probability of this in the valuation. Bubbles are generated when the valuation of the securities steadily departs from this value. See more on the subject in *Schiller* (*2000*).

a loan to purchase them due to increasing market price expectations. If doubts arise with regard to the repayment capacity due to the debt overhang, a reduction of income is not an optimal tool for adjustment, as it can lead to mass fire sales, capital losses and bankruptcies/liquidations – that is *the overheating may lead to significant overcooling, i.e. to a very substantial negative output gap.* The severity of the downturn may increase if many actors simultaneously start to adjust their balance sheets or several countries resort to austerity at the same time. In the management of this type of crisis, it is crucially important to curb and stop the adverse feedback loops and panic sales, as well as to stabilise actors' revenues, as these measures may ensure the continuity of repayments and maintain financial and macroeconomic stability.

Differentiation between the two types of crisis started in the 1990s, based on the lessons learnt from the Mexican crisis in 1994 and the East-Asian crisis in 1997. The Asian crisis was no longer a current account recession – where the domestic use outstrips domestic output – that used to characterise developing countries, but a "capital account" recession that evolved as a result of the large-scale direct and bank-mediated capital inflows (*Baghwati 1998; IMF 1999; Kregel 1998*). At that time, the East-Asian region had already shown very rapid convergence for many years and – expecting this to continue – a large number of investments were implemented financed from foreign capital inflows. Doubts about the viability of these started to increase and the process led to a currency crisis. The IMF played a key role in the management of the crisis: in order to protect foreign currency exchange rates, its first reaction was to demand fiscal austerity, in addition to the monetary tightening, despite the fact that the instability was generated by the excessive investments of the private sector rather than by the fiscal spending overrun. Subsequently, the IMF also admitted that it had underestimated the depth of the crisis and should have corrected the fiscal austerity measures earlier.[10] The error may be attributable to the fact that the international organisation regarded the crisis in East-Asia as one that evolved as a result of the formerly typical flow imbalances and managed it accordingly. The consequence of the error was a protracted crisis, the unjustified capital loss of the Asian countries and the privatisation of part of the assets below their value, primarily to Western companies that had easy access to loans to finance the acquisitions.[11]

[10] See *IMF* (*1999*) p. 64, video interview: "Fiscal policy is another important topic covered in the paper. Here a degree of budget-tightening was envisaged at the outset of each of the three programs, in part to pay for some of the substantial and inevitable costs of reform of the financial sector. This tightening was planned at a time when the Fund, like most other observers, thought these countries could get away with a comparatively mild slowdown in growth. The tightening was put into reverse once it became apparent that the recessions these countries faced were going to be deeper than expected and that expansive budget policies would be needed to help cushion the economies as the recessions developed."

[11] This experience traumatised the East-Asian countries impacted by the crisis of 1997 (e.g. South Korea, Thailand), the result of which is a lasting distrust of the IMF (*Baghwati 1998*). There was also a common belief that the accumulation of foreign currency reserves that preceded the present crisis was a "self-insurance" to prevent the repetition of this case (*e.g. Bernanke 2005*).

2.3. Errors in the assumptions included in the theories and models used before the financial crisis of 2008 in the light of the experiences of the balance sheet recession

The current crisis management approaches implicitly assumed that companies strived to maximise their profits – i.e. the right side of Figure 6 continuously dominates – and easing of the monetary stance leads to increased investments. In this spirit, the economic policy answers proposed monetary policy stimulus and – to prevent crowding-out – a reduction of the budget deficit. However, based on the foregoing, the traditional monetary policy instrument is less effective when the credit demand of the private sector is weak due to macroeconomic uncertainties and inadequate aggregate demand (left side of *Figure 6*). In addition, the reduction of the budget deficit also has an unfavourable impact on the economy, as in the context of strong deleveraging by the private sector and close to the zero lower boundary, the coefficient of fiscal multipliers is higher,[12] which – in a synchronised balance sheet recession – increases the real economic costs of budgetary adjustments. *Due to this, the confidence-building effect expected from reducing the deficit may not materialise, or – in an unfavourable situation – it may even worsen due to the deterioration of the debt ratio, arising from the faster decrease of the denominator (GDP) than that of the numerator (debt).*

Unfortunately, the traditional macroeconomic and econometric models often used before the crisis were unable to properly capture this increased multiplier effect without being adapted to the circumstances of the crisis, because they were built on the assumption that the economy was in a state of equilibrium (or close to it) without fiscal stimulus, i.e. it would stay close to some kind of long-term equilibrium growth path. Thus, the standard econometrics models were unable to show the magnitude of the fiscal multiplier in an economy which was not in a state of equilibrium (*Koo 2008:145–146*). The models also assumed that when the economy is not exactly on the equilibrium path this was caused by an external reason (shock), and that the market automatisms steer the economy towards equilibrium. In this approach, the role of economic policy is to merely accelerate this return, which

[12] The 2012 Public Finance Report of the European Commission contains comprehensive analyses for the estimation of the fiscal multipliers. According to the analysis, the magnitude of the multiplier depends strongly on the cyclical position of the economy, which is particularly important during a balance sheet recession. According to the analysis, the value of the multiplier is higher if the degree of unused capacities in an economy is larger. As a result of this, at the time of a balance sheet recession the fiscal consolidation reduces output considerably, while fiscal expansion increases it significantly. Namely, during the fiscal consolidation the decline in growth is higher than the improvement of the budget balance (*Szalai 2012; Christiano et al. 2011*). *Blanchard-Leigh* (*2013*) published an estimation on how the underestimation of the multipliers led to the underestimation of the recession effect of the adjustments. *Caggiano–Castelnouvo* (*2015*) demonstrate that if the expectations of the actors, the non-linearities and severity of the downturn can be properly controlled methodologically, the fiscal stimulus helps stabilise GDP just then when it is needed the most. However, one of the conditions of this is that the sustainability of the debt should be unquestionable.

happens independently of it as well. Social welfare improves because the economy is on a non-equilibrium path for a shorter period.

The dynamic stochastic general equilibrium (DSGE) models which were *widely used before the crisis* typically had a New Keynesian foundation and were essentially based on real business cycle models, despite featuring nominal stickiness and financial frictions. These models strive for equilibrium. In addition*, in these essentially real models the functioning and role of the financial sector was negligible,* and thus the existing equilibrium trends were not significantly influenced by financial and lending processes; the most that could happen was that when those did not work in a sufficiently friction-proof manner they slowed the return to the equilibrium (*Buiter 2009; Haldane 2012*). However, after the crisis the dominant role of the financial sector has become increasingly acknowledged in the functioning of the economies, the triggering of the crisis and the explanation of the severity thereof. Economists representing different schools urge to return to traditions where the cycle-reinforcing function of the financial sector is strong and interacts with such a real economy sector where there is no or only weak tendency to strive for equilibrium – *thus the financial sector is able to endogenously generate a recession of similar degree and length that was experienced in the present crisis*.[13] In such a framework, the overheating and overcooling of the real economy may assume much greater proportions, debts may accumulate much faster and the adjustments may result in a much longer recovery. *According to these approaches, the assumptions of the new models inspired by Keynes which ignored financial cycles and were applied before the financial crisis to the balance sheet recessions that developed due to excessive lending, are not valid.*

In addition to ignoring the financial sector, the benchmark assumption of the pre-crisis mainstream economics and the New Keynesian analytical framework – related to reasonable expectations and representative actors – according to which the economy and the model will reach a state of equilibrium as a result of the profit maximisation of those actors, also proved to be erroneous. These models ignore not only the present complexity of the economy and the financial system, and the interaction between actors, but also certain behavioural norms and (economic) psychological aspects confirmed by behavioural economics (*Haldane 2012*).

In this approach, *market automatisms and market self-regulation failed both in terms of the volume of investments (so-called intertemporal choice between current*

[13] This would primarily mean returning to the "monetary analysis", hallmarked by the names of Wicksell, Schumpeter and Keynes, as opposed to the theories based on the "real" analysis. See a more detailed description in *Aglietta* (*1995/2005*)*, Borio et al.* (*2011*) *Appendix, Borio* (*2012*)*, Minsky* (*1986*)*, Roger* (*1989*)*, Tamborini et al.* (*2009*)*,* and in the literature listed there.

and future consumption) and the industrial-structural distribution (intratemporal choice within a given period). Although taking a longer horizon, economies typically appear to move around a more or less sustainable path – there is not always a crisis or recession – from time to time deviation from the sustainable path leads to a crisis in an endogenous and cumulative way, as a result of the financial market and real economy interactions. Although in this sense there are self-regulatory and self-adjusting processes in the economy, they do not always work. Accumulation of the intertemporal and intratemporal imbalances often takes several years and even the actors fail to notice it or notice it too late. The above mentioned cycle-reinforcing functioning of the financial sector plays a key role in this.

Since, as opposed to the mainstream theory that preceded the financial crisis, the existing deposits (interpreted in real terms) do not restrict the modern banking system in lending, the demand – supply – price mechanisms known from micro-economy (Marshall cross) do not work either in a self-regulatory manner, as described in the textbooks. In models that contain endogenous money creation, better capturing the functioning of the modern financial system, banks do not simply lend under the constraints of existing savings, as they are also able to generate purchasing power in the absence of these and thereby indirectly influence the level of the resource utilisation (output gap), the distribution thereof among the sectors, as well as the choice between the present and future consumption (*Nealy et al. 2014*). Thus, in practice the lending constraint within the given prudential regulatory framework is the credit demand of solvent clients. In such a financial system, the credit expansion justifies itself in the initial phase, as the price of the borrowing company or of the real or financial property purchased from the credit increases and the related risk premium decreases. As the definition of the optimal level and sectoral distribution of indebtedness is uncertain, there is a high risk of excessive lending with an unsustainable industrial structure, which acts toward the strengthening of the financial cycle. Thus, the price and exchange rate do not provide adequate information on the fundamental values and the related market and credit risks, and therefore they do not guide the actors in their decisions in a stabilising manner.[14] The adjustment of financial imbalances is slow and costly, and sometimes it is realised only through a crisis. On the financial side, it requires the adjustment of the balance sheet and deleveraging, while on the real economy side it demands the lower utilisation, the slow phasing-out and reallocation of the capacities of excessive volume and unsustainable industrial proportional structure in accordance with the sustainable structure.

[14] *Minsky* (*2008*) has placed this mechanism in the centre of the "financial instability" approach, represented by him, in the course of which he relied essentially on the work of Wicksell and Keynes (*Aglietta 1995/2005; Borio–Disyatat 2011*).

Based on these experiences in the future those models may serve as guidelines that assume heterogeneous interacting actors, where the actors make their decisions under fundamental uncertainties and do not assume that the consolidation of individual decisions that appear reasonable would automatically lead to equilibrium, and capture money creation via the endogenous lending. These models – containing nonlinearities and multiple equilibriums – are very data– and calculation-intensive, and thus it may still take a long time before they become widespread and widely acknowledged, and on the other hand the (technical) assumptions of these are still novel in economics, but are not unknown for the psychological, physical or ecological models, and thus in the future economics may learn a lot from these sciences (*Haldane 2012*). As referred to before, these assumptions and approaches are not necessarily new; most of them have been present in economic thought for a long time – however, as old crises are forgotten and in calm economic times supporters of these theories were typically pushed into the background or driven out of the mainstream (*Borio 2012*).

3. Economic policy lessons

Bearing all of this in mind, economic decision-makers should recognise the debt-bearing capacity of the economy *ex ante* and prevent excessive debt accumulation since that makes the economy vulnerable to real economic and financial shocks, requiring distressing adjustment. If this fails, then during the *ex-post* intervention economic policy should focus on reducing the costs of adjustment. In the following, we review the tasks that the individual policies should perform in the prevention and management of the balance sheet recession.

3.1. Reconsidering crisis prevention and the tasks of individual policies

BIS, which has kept the topic on its agenda for many years, once again emphasised in its latest annual report (*BIS 2015*) that strong control over financial booms and the efficient management of financial crises require that the fiscal, macroprudential and monetary policy framework be broadly reconsidered.

The duty of fiscal policy in the prevention of the balance sheet recession or, in case of its failure, in the management thereof would have been to curb – by means of its countercyclical behaviour – the overheating of the economy during recoveries and provide itself with sufficient room for manoeuvre for the management of financial crises during times of economic downturns to support the balance sheet adjustment of the private sector. In the previous chapter, we noted that Koo (*2008; 2014*) also regards fiscal policy to be efficient in the management of the balance sheet recession; in addition, he also recognises that during the period of balance sheet adjustment, households and enterprises will use their surplus income for the faster reduction of their debts instead of taking new loans or implementing new investments. Having recognised this, Koo believes that fiscal stimulus must

be maintained for several years even after the completion of balance sheet adjustment, as the sudden withdrawal thereof may revive deflationary risks.[15],[16] *Borio* (*2012*), as well as *BIS* (*2015*) emphasise the significance of fiscal policy in the management of balance sheet recession; however, they disagree with the aggregate demand supporting role of fiscal policy, since in their opinion this has already been exhausted. They believe that the existing room for fiscal manoeuvre must be used specifically for cleaning up the balance sheet, for the recapitalisation, nationalisation and then for the reprivatisation of the banks, while in the case of the non-banking sector for the mitigation or restructuring of the debts.[17] Accordingly, public funds could be used most efficiently if directed at the root of the problem, rather than by the non-targeted increase of the government deficit, spending or tax reduction.

The priority for *macroprudential policy* should have been to mitigate the financial system's excessive procyclical behaviour and strengthen its shock resilience, i.e. it should have worked as a symmetric macroprudential framework. Thus, for example, the countercyclical capital buffer or the debt brake rules could have restrained the boom in the financial cycle; later, after the bursting of an asset price bubble the withdrawal of the formerly accumulated capital and liquidity buffers could have mitigated the damage to the financial institutions and the economic losses. However, if during the boom no such buffers were implemented in the system, then the recovery of the financial institutions' balance sheet is more difficult[18] (*Borio 2012; BIS 2015*).

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[15] In addition to Koo, *Rogoff* (*2015*) also emphasises that initially fiscal policy was efficient in crisis management; however, tightening was introduced prematurely, as a result of which the recovery took a "U" shape rather than a "V" shape.

[16] At the same time, Koo recognises that modern democracies run into a number of difficulties when trying to maintain the fiscal stimulus at the proper level and for an adequate time. This is in part attributable to the fact that the majority of the economic agents (e.g. media, men in the street) are not familiar with the phenomenon of balance sheet recession, and therefore they do not understand that the balance sheet adjustment is a proper response in a crisis of this type; as a result of all this they may regard the demand stimulus measures of the government as "wasting the taxpayer's money". On the other hand, the maintenance of fiscal stimulus in peacetime is a particularly big challenge, while in wartime – when the survival of the nation is at stake – nobody disputes the necessity thereof (e.g. spending on armaments). Similarly, when the economy is hit by a major shock such as the Lehman bankruptcy for example, thereafter the challenge is represented by the maintenance of the government's demand stimulus for an adequate time rather than the implementation thereof.
The crisis of 1933 also provides an example of this, when both Germany and the United States suffered from balance sheet recessions. Then both Roosevelt and Hitler started a government demand stimulus programme; however, Roosevelt stopped it in 1937, which generated a "W" crisis and the unemployment rate once again was around 20 per cent; by contrast, Hitler maintained the stimulus and unemployment fell to 2 per cent. However, nothing is more dangerous than when a politician implements a correct economic policy with vicious objectives.

[17] Apart from them, *Rogoff* (*2015*) also emphasises that the economic policy-makers should have paid more attention to the debt write-off, as well as to the restructuring and recapitalisation of banks.

[18] In this case one potential pitfall is that the focus is only on bank recapitalisation without writing off the losses, as in this case the bad loans also remain in the system, while good borrowers face higher costs. Accordingly, in the course of crisis management – when the fall in the debts and the asset prices is unavoidable – the emphasis should be on the quality and allocation of the loans rather than on the volume thereof in general. The incorrect allocation may reduce the potential output and growth, which after the hysteresis may lead to permanent output loss.

Although based on this the guidelines for the application of certain macroprudential tools are clear, the efficient practical application of such involves a great deal of challenges. One shortcoming of macroprudential policies is, for example, that tightening banking regulation may divert the operation from the banking sector to the shadow banking sector or from domestic financial institutions to foreign ones (*Teulings–Baldwin 2015*). An additional difficulty may be the identification of the risks arising from the lending by the non-bank intermediaries; e.g. in the case of the asset management companies, the failure of individual companies generates no significant anxiety, but the one-way behaviour of such companies may represent substantial stability risk due to the impact on asset prices, market liquidity and financing costs. Another relevant challenge in connection with macroprudential tools is the identification and management of the risks arising as a result of sovereign exposures (*BIS 2015*).

The significance of macroprudential policy and regulation is strengthened by the fact that – as we described above – the self-regulation capability of the market is limited in the sense that – recognising the potential instability of the markets – market actors create rules on their own for the prevention of crises and severe imbalances. *The present crisis proves that without elaborating the appropriate prudential regulation and the sufficiently strict application of such in the modern financial system the market on its own does not efficiently restrict the build-up of the financial instabilities and also does not succeed in preventing panic-stricken market adjustments.*[19] Although compared to other economic agents the financial markets and the banking systems have always been subject to more regulatory requirements, in the longer run it can be observed that the rules were tightened after the crisis and after the fading of the memory of the last severe crisis the rules are eased once again. Prior to the present crisis, the internal and external liberalisation that started in the 1990s reinstated to a large degree the less regulated conditions of the period before 1950s–1970s. As it was demonstrated by *Aglietta* (*1995; 2005*), *Borio* (*2012*) and others after liberalisation financial instabilities became increasingly frequent, first in the less developed and later on also in the developed countries. In the developed countries, this did not manifest itself in real economy volatility for a long time, and it was accompanied by price stability not seen before – this is why the pre-crisis period was referred to as the "Great Moderation" – which contributed to the continuation of liberalisation.

The most frequent argument brought up in disputes against government regulation is that the government does not have more reliable information than market participants on the fundamentally grounded prices, interest rates and the volumes

[19] "As I wrote last March, those of us who have looked to the self-interest of lending institutions to protect shareholders equity, myself especially are in a state of shocked disbelief. Such counterparty surveillance is a central pillar of our financial markets state of balance. If it fails, as occurred this year, market stability is undermined." (*Greenspan 2008*)

of credits that may be prudently extended. However, regulation is justified not because the public authority has better information on the sustainable prices and credit volumes – as presumably this is not the case – but because the motivation of the state regulator may be different. Private actors are competing with each other and want to realise a profit, thus they are interested in and can contribute to the market stability only indirectly. Self-regulation may work in a market with limited number of actors that know each other well,[20] but the conditions of this do not exist in a modern global financial system. *After the crisis, regulation must be transformed rather than simply tightened; it must treat the financial instabilities – which are increasingly of macroeconomic nature – at their roots* (*Borio 2012*).

The sequence of applying individual economic policy measures is of key significance, due to the potential output losses. In an ideal situation, accommodating monetary policy and measures that reinforce the banking system should be implemented first, thereby ensuring the smooth flow of funds again. Thereafter, fiscal policy may only introduce tightening measures if the recovery is sufficiently solid to cope with a downturn. Ideally, the adjustment does not require separate major measures as the operation of the automatic fiscal stabilisers ensures this: during the boom, tax revenues increase and expenditures, such as unemployment benefits and other economic stimulus measures decrease. To put it simply, this type of crisis management was implemented in the United States, while in the euro area fiscal austerity preceded the restructuring of the banking system, which finally impeded growth (for more details on this, see subsection 3.3). At the same time, this optimal sequence may only be implemented if the balance of the general government and the credibility of fiscal policy are sufficiently strong for initially increasing its indebtedness to provide support for deleveraging by the private sector. (See more details on the limits of the various economic policies in the box.)

In the euro area, the institutional structure of the region and the "incompleteness" of the monetary union impeded optimal crisis management. Although the euro area as a whole was less indebted than the USA or the United Kingdom, it still started to move back towards the three-percent deficit target earlier. The decision-makers feared that the market's distrust of the more severely indebted countries would also spread to the "core countries", which acted as the final insurers of the region's stability. Although in theory euro is an irreversible single currency, in the absence of proper common institutions it was not clear how the monetary union as a whole would be able to manage financial strains, or even the potential bankruptcy of individual states or the banking systems thereof. Crisis management

[20] *Goodhart* (*1988*) gives a good description of the English banking system's initial capability of self-regulation (operating in a club-like manner); however, with the transformation of the market, the increase in the number of actors and the entry of foreign banks a regulatory authority was required. One of the commercial banks, which could fulfil this role, has split away, but it could no longer have its own profit interests as it would have distorted competition.

at the level of the euro area means the sharing of risks: initially the common central bank, as lender of last resort, may manage the liquidity crisis and then fiscal policy may address the solvency problems (bank recapitalisation, debt write-off and restructuring, etc.). When the euro area was established, no lender of last resort function was declared; this function of ECB could only be derived from its responsibility for the smooth management of payments. Fiscal capacity was also missing during the crisis; therefore the governments contributed to the stabilisation of the banking system only by ad hoc measures, and often informed the Commission of the steps only after the fact. The development of the "banking union's" institutions – built on ad hoc decisions made under the pressure of the crisis – already represents a step forward for filling the gap of the institutions ensuring financial stability. However, it is still an outstanding issue as to how to ensure that the income distribution side-effects arising from the unavoidable sharing of risks do not result in such permanent transfers that the general public is not ready to accept. Permanent transfers are permissible only in such unions where the fiscal policies are also adequately centralised; a political union is a precondition for this. For the time being, the European integration is not yet mature enough for this level of integration.

3.2. Lessons learnt from the balance sheet recession with regard to monetary policy

In the light of the experiences of the financial crisis, the primary task of the monetary policy is to apply financial stability considerations in a more symmetric manner, both during the recovery and the adjustment phases of the real economy and financial cycles. The reason for this is that – prior to the financial crisis – the major growth in lending and asset prices took place in a context of low and stable inflation, and then the outbreak of the crisis highlighted the fact that its rather expensive to ignore the financial cycles, bearing in mind the severe and lasting consequences thereof. Through historical experiences, *BIS* (*2014*) shows that if the recession is accompanied by financial downturn (i.e. the real economic and business cycles coincide), accommodating monetary policy will be less efficient in strengthening the recovery. *Borio et al.* (*Borio 2012; BIS 2014*) demonstrate that the number and degree of financial instabilities have increased since the 1980s even in the developed countries and the fluctuations of the financial cycles have also increased. If decision-makers fail to make macroeconomic policy symmetric, i.e. during an upturn they do not curb fluctuations and after the bursting of a bubble they react with fast, large-scale easing, they no longer stimulate the write-off and restructuring of the bad loans and keep increasing the fluctuations of the subsequent cycles, thereby exacerbating the negative consequence thereof, since the new financial cycles start from increasingly higher levels of indebtedness.

In the spirit of this, the framework must permit monetary policy to be (relatively) stricter during the upturn in the financial cycle, even if inflation is low and stable, and to implement less aggressive and persistent easing during the downturn. The fact that monetary easing can only have a limited impact on aggregate demand during the downturn is attributable to several factors, including that the financial system is damaged and the actors of the private sector are overly indebted, as well as that resource allocation implemented incorrectly during the upturn reduces potential output (*BIS 2015*). However, at the same time, all of this does not mean that accommodating monetary policy has no role in stimulating the recovery after a balance sheet recession; simply, over time it is less and less efficient and it becomes increasingly evident that it is unable to handle such basic problems as the cleaning of balance sheets.

According to those thinking within the traditional framework, the financial stability objectives must be managed by macroprudential tools and interest rate policy must be reserved for the management of macroeconomic stability, i.e. the overheating and overcooling of the real economy.[21] However, according to BIS – the institution which, well before the crisis, was one of the first to propose the development and application of macroprudential instruments – experiences do not really confirm this separation principle. They are of the opinion that targeted macroprudential instruments cannot be as efficient in curbing excessive risk-taking as the key interest rate, which is valid in the entire financial system. In the spirit of this, it would be overly risky to rely solely on macroprudential policy for the purpose of managing financial instabilities, thus these two instruments supplement rather than substitute each other. In addition, the empirical results also confirm that monetary policy is able to influence aggregate demand more efficiently via financial channels. Box IV of *BIS* (*2015*) describes that the key interest rate has a significant effect on lending and asset price (particularly on property prices), while it generates greater volatility in the financial variables, if it focuses on short-term inflation and output.

The determination of the appropriate monetary policy steps fundamentally depends on the degree of capacity utilisation in the economy. Based on the foregoing and the recent experience, it can be stated that the methods that *integrate the information provided by the financial cycles, such as the trends in lending and property prices, provide a much more reliable estimate of potential output* than traditional methods that focus solely on inflation. This is also suggested by the fact that before the crisis the methods often applied during the economic policy decision-making process

[21] This is the so-called Tinbergen principle, according to which each economic policy instrument is suitable to attain a single objective, and economic policy needs as many dedicated instruments as it has goals. This is consistent with the interpretation of the economy according to which in terms of its tendency it is characterised by stability and only external shocks may dislodge it from equilibrium. After the crisis, it became a common theory that in practice this comfortable separation of the objectives and instruments cannot be implemented, as both the objectives (macro and financial stability) and the instruments (macroprudential instruments and the key interest rate) impact each other.

were unable to identify that the output expanded at a degree which was higher than sustainable.[22]

One of the most important questions for monetary policy is how *this strategy can be harmonised with the inflation targeting strategy – i.e. financial stability with macroeconomic stabilisation*. The build-up of financial vulnerabilities takes a longer time, and as such financial recessions also have lasting macroeconomic – including inflationary – effects, as financial cycles are longer than traditional real business cycles. Thus, for example, the prolongation of the traditional two-year monetary policy horizon to three years could help harmonise the financial stability and traditional objectives. However, this means not the simple prolongation of the present forecasts performed by real models but rather that the financial factors that exert their impact on this longer horizon should be also taken into account systematically. At the same time, the uncertainties attached to longer-term forecasts must not be ignored.[23] Some central banks have already started to modify their framework by providing the monetary policy with greater flexibility. One of these measures is that in certain cases it explicitly permits inflation to return to its long-term target only in an extended timeframe, depending on the factors that explain the deviation from the target. However, in other cases it may happen that the central bank must apply tightening measures already when there is still no sign of inflationary pressure over the previously traditional shorter horizon, but the financial imbalances threaten collapse and a negative output gap over a longer horizon and signal the risk of significantly undershooting the inflation target.

The question arises as to how long and to what extent departure of inflation from the target can be tolerated. This depends on the risks attached to deflation and on the issues related to the central bank's credibility and mandate. According to the Annual Report of BIS (*BIS 2015*), the most important consideration is that the monetary policy should use the available room for manoeuvre while its analytical framework systematically takes financial stability risks into account. The monetary policy mandate must be amended only failing all else, which must be carefully explained to the public.

3.3. Where do we now stand in crisis management?

The room for monetary policy manoeuvre in the management of the balance sheet recession decreases as the years go by, continuously testing the limits thereof. Meanwhile, after the post-crisis expansion, fiscal policy gradually tightens as sustainability problems mount.

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[22] *Borio et al.* (*2014*)*, Ábel et al.* (*2014*) Box 1, *MNB* (*2014:70–72*).

[23] Apart from the extension of the horizon, financial processes can be considered in several ways: on the one hand, by including certain financial variables (e.g. asset prices, property price index) in the monetary policy reaction function, or by integrating certain indicators signalling the build-up of imbalances in the traditional monetary policy analytical framework (see more details in *Csortos–Szalai 2014*).

In the present situation, the task of fiscal policy is to keep sovereign debt on a sustainable path, as this is the precondition for lasting monetary, financial and macroeconomic stability. If the sustainability of the debt path becomes questionable, it would not be prudent to continue with the expansive fiscal policy. On the other hand, those countries that still have sufficient room for fiscal manoeuvre should utilise it as efficiently as possible. This means that the fiscal policy should first of all facilitate balance sheet cleaning in the private sector, support innovation and reforms that improve long-term productivity and use its funds for rational investments rather than for transfers.

Monetary policy should properly assess and take into account the macroeconomic and financial risks related to the present policies. In addition to considering country-specific factors, it is also necessary to apply macroprudential tools actively, but no excessive expectations should be attached to such. It should be borne in mind that key interest rates have been at a historic low level for quite a while, investors' search for risk and yield is continuously strengthening, and thus the normalisation will not be smooth. Due to this, it would be dangerous to shift the full management of financial stability risks to macroprudential policy.

One potential lesson learnt from the foregoing is that the individual economic policies should support recovery in the real economy without building up excessive financial imbalances. Based on the foregoing, it appears that this requires, in addition to central bank interventions, further targeted fiscal policy measures concerning which, however, no economic policy consensus has yet been reached. In the absence of this, *the balance sheet recession may become a lasting or recurring phenomenon*.

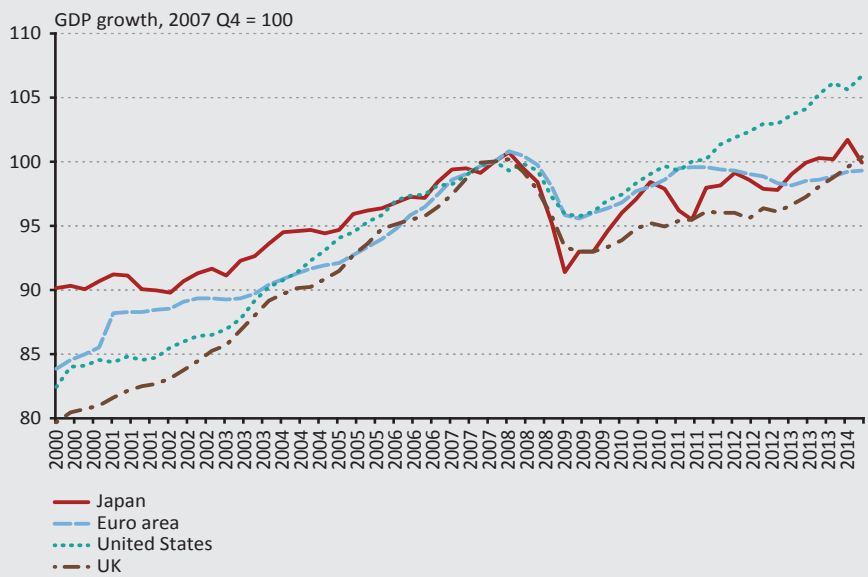
Furthermore, in addition to the appropriate economic policy measures, the question arises whether the technical improvement and increased efficiency of the financial markets and the more intensive testing of corporate decision-makers in terms of the financial performance criteria (e.g. maximisation of enterprises' stock exchange value) automatically ensure the balanced and sufficient growth of the economies that is sustainable both in social and environmental terms. All this is important because experience shows that financial innovations are not necessarily followed automatically by real economy innovations and they do not support lasting, sustainable productivity growth.[24]

[24] Mariana Mazzucato organised a conference on this topic, which was attended by leading researchers and economic policy-makers, including Andrew Haldane, chief economist of Bank of England. The presentations of the conference are available here: *Mazzucato–Penna* (*2014*). On the role of the financial sector and the lessons of the crisis, see also the presentation of *Zingales* (*2015*) held in 2015 in his capacity as the chairman of the American Financial Company.

3.4. Successes and failures in crisis management

Following the outbreak of the crisis, the processes in the countries with debt overhang which were hit hardest were similar both in terms of the economic downturn and the recovery that followed between 2009 and 2011. Due to the global nature of the financial crisis, the downturn took place almost simultaneously, while similar trends could be also observed during the recovery, which is attributable to the fiscal and monetary easing coordinated at the global level. However, after 2011 more significant differences surfaced in the economic performance of the individual countries, which was attributable to their different starting positions and circumstances, as well as to the difference in the applied economic policies and the constraints of those (*Figure 7; MNB 2014*).

Figure 7.
Output growth



Source: Eurostat (2014)

After the outbreak of the crisis in 2008, the United States, the European Union and several developed countries responded to the worsening macroeconomic situation with *fiscal easing,* as part of which they permitted the automatic fiscal stabilisers to operate freely and applied various stimulus packages. However, after this the fiscal policy of the individual countries showed significant differences. After the start of the recovery, the United States and Japan were more cautious in launching consolidation, in order not to jeopardise the fragile upturn by premature fiscal tightening. In 2009 several economists supported fiscal stimulus,

but were pushed to the background, and at the meeting held in 2010 in Toronto the G-20 member countries agreed in the gradual budgetary consolidation at different rates, corresponding to the cyclical position of the regions. In accordance with this, a stricter fiscal policy was implemented in the United Kingdom, after the change of government in 2010, and after the slight improvement in growth prospects the adjustment of excessive deficits started in the euro area as well. This was necessitated primarily by compliance with the euro area's fiscal rules and increased fears related to the solvency of certain countries. The demand-restraining fiscal policy led to a new downturn in 2012, pushing several developed countries – including the United Kingdom and a large part of the euro area – in a "W" crisis. By contrast, the USA recognised the misguided nature of the Toronto agreement and the risks of stopping the demand-stimulating measures too early, and at the meeting held in 2013 in St. Petersburg – relying on the lessons learnt – the other developed countries also emphasised the importance of fiscal stimulus.

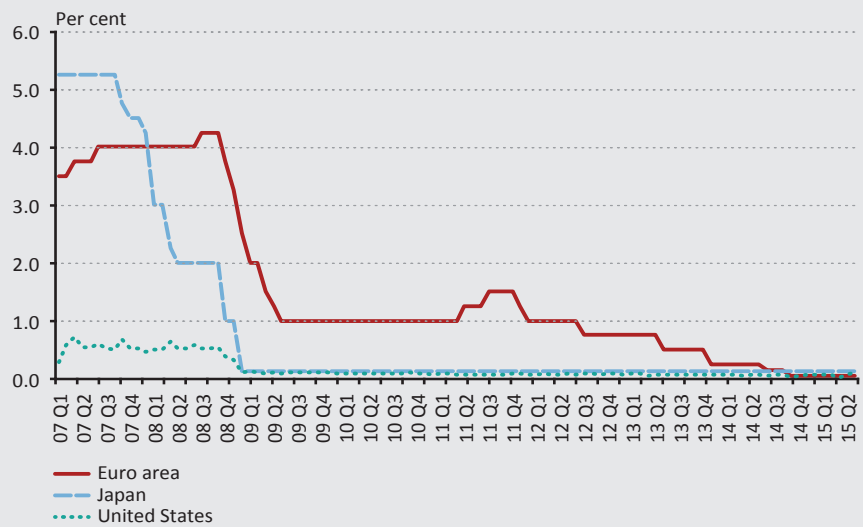
Apart from fiscal policy, after the outbreak of the crisis, the general government also has a dominant role *in the rescue and recapitalisation of the banks*. Due to the panic that followed the Lehmann bankruptcy, certain sub-markets temporarily froze and distrust with regard to the solvency of certain financial institutions increased. The governments of the developed countries tried to restore market confidence by loan guarantees and direct recapitalisation of the banks. At the same time, there were significant differences in the degree and timing of the intervention in the functioning of the financial markets that the individual countries intended and had the opportunity to apply (*Kiss–Szilágyi 2014*). As we mentioned earlier, there is also a considerable difference in this respect between the economic policy of the USA and the euro area. In the euro area, bank recapitalisation took place only with a delay, which kept the insolvent institutions in operation for a long time, thereby prolonging banks' balance sheet adjustment. Simultaneously with this, undercapitalised banks restrained their lending. In addition, the downturn in the euro area was further exacerbated by the fact that fiscal consolidation started already before the restructuring of the banking system, which in the end generated considerable losses in output (*Teulings–Baldwin 2014*).

Following the outbreak of the financial crisis, central banks in the developed countries responded to the economic downturn and the worsening inflation outlooks by interest rate cuts, and once they reached a close-to-zero interest level (see *Figure 8*), they started to apply unconventional methods.[25] In the years after the outbreak of the crisis, monetary policy in the United States, the United Kingdom and Japan, on the whole, was more accommodating than that of the euro area, where after the initial swift easing the shrinking of the ECB balance sheet started in

[25] For the details on the applied unconventional monetary policy instruments, see *Krekó et al.* (*2012*).

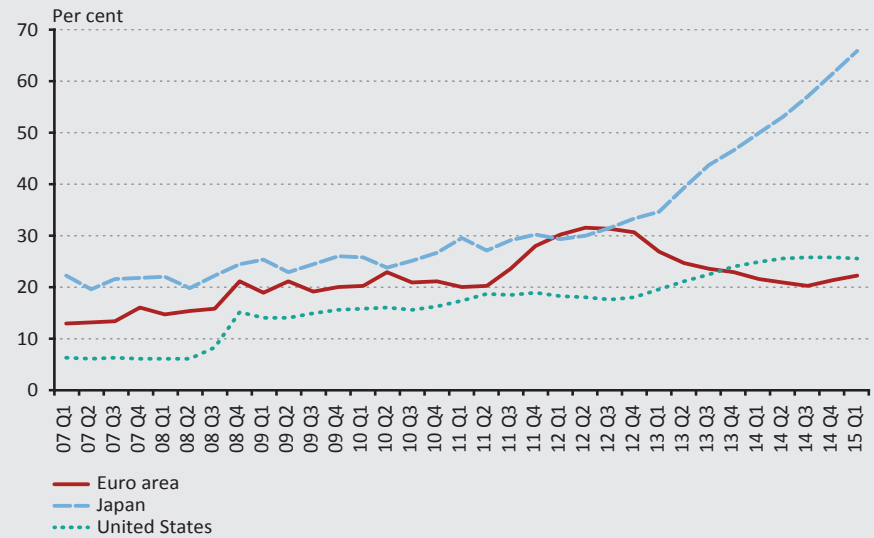
2012 (*Figure 9*). As of 2014, regional differences in macroeconomic developments started to strengthen, which was partly attributable to the different economic policy mix applied earlier and by now it has finally led to the divergence of the monetary policies. The Fed has kept the key interest rate constant – in the 0–0.25 per cent band – since 2009, and in October 2014 it terminated its two-year quantitative easing programme; according to its current communication a gradual increase in the key interest rate may start as early as 2015. Meanwhile the ECB – seeing the lasting low inflation environment and the falling inflation expectations – further eased its monetary conditions, announcing a new asset purchase programme at the beginning of 2015. Japan, in an effort to attain the inflation target of 2 per cent, also opted for the extension of its asset purchase programme. While in some of the countries deleveraging is still in progress, in other countries indebtedness may remain high or even increase further as a result of the lasting accommodating monetary policies, and thus the financial stability concerns related to the build-up financial imbalances may gain increasing importance. As a result of this, the trends in lending and the asset price developments gain increasing weight in the central bank's communication. On the whole, although the central banks' decisions were consistent with the short-term macroeconomic developments, financial market considerations appeared in the central banks' decision-making process only to a limited extent, which – looking ahead – may contribute to the build-up of additional financial imbalances (*BIS 2015*).

Figure 8.
Key interest rates in major developed countries



Source: BIS 2015

Figure 9.
Central banks' assets to GDP



Source: BIS 2015

Box: Constraints of certain economic policies

The differences in the economic policy mixes applied by the individual countries are attributable not only to the different judgement or preferences of the decision-makers, as the various country-specific factors, the different starting positions, development levels and potentials of the countries also greatly contribute to it; in our analysis above we primarily focus on the analysis of the experiences of the developed countries and regions. Depending on these, in certain cases some countries' room for manoeuvre was limited in terms of implementing the economic policy mix deemed optimal. In the box we consider these.

In terms of fiscal policy, decision-makers may have been hindered in the implementation of the (targeted) fiscal measures of adequate degree; these include the amount of initial government debt and the market's confidence in the state's future solvency, as well as the constitutional budgetary rules or other institutional constraints. As the crisis progressed, differences in the solvency of the individual countries became increasingly obvious. In addition, several studies pointed out that the fiscal policy of the emerging and developing countries intensified economic volatility (i.e. contrary to the developed countries, it is procyclical); this on the one hand is attributable to the weaker institutional system of these countries and on the other hand to the flight to quality. On the whole, under the fiscal stimulus, it is a challenge to identify the debt level that can be maintained in the long run *(Blanchard 2015).*

The degree of intervention in *money and banking market* processes may depend on the level of damage to the individual sub-markets, the degree of market distrust, the level of assistance that the banking system required, as well as on institutional embeddedness. In the spirit of this, the euro-area member states could participate in the European Central Bank's programmes directly, while others could receive only indirect assistance. Furthermore, in those countries where a major part of the banking sector is owned by foreign banks, bankruptcies and bank rescue programmes were not inevitable as the parent banks could provide their subsidiaries with the required capital.

The *monetary policy* of the developing and emerging countries was substantially hindered by the fact that due to the increasing uncertainties resulting from the financial crisis the financing of these countries may stop abruptly in certain cases, and thus they may be able to protect their exchange rates and preserve their financial stability only at interest rate levels that are higher than those of the developed countries. This means that the emerging countries had less opportunity to curb the economic downturn by easing the monetary stance and cutting the key interest rate, and – in certain cases – they were even forced to increase the interest rate due to the financial stability considerations. It was even more difficult to manage the downturn for those countries whose economic agents had major foreign currency debts, as in this case the interest rate cut may have a stimulating effect via the exchange rate weakening that takes shape via the channel of cost diversion, while via its balance sheet channel it may act as a brake, and this latter often proved to be a stronger effect.

Beyond the aforementioned difficulties, the countries without an independent monetary policy were in a special situation, because they are the members of a currency union (e.g. euro area) or have a pegged exchange rate regime (e.g. Bulgaria). The monetary policy of the members of the euro area is determined by the European Central Bank. The monetary policy in the countries operating with a pegged exchange rate regime is fully subordinated to the maintenance of the pegged exchange rate, thus they cannot use it as a stimulus in times of recession. In order to regain their competitiveness, these countries typically resorted to internal devaluation, that is the cutting of prices and wages *(Kiss–Szilágyi 2014).*

4. Conclusions

The paper demonstrated that, seven years after the outbreak of the crisis, the output and employment still fall short of the pre-crisis peak in several developed countries. In addition, the unfavourable consequences of the pre-crisis debt overhang on investments and productivity can be still felt. Although fiscal deficits typically decreased in recent years, outstanding sovereign debt is still high and in the context of poor real economic performance there is a global trend of decreasing inflation. A number of factors may contribute to these processes.

The aforementioned phenomena suggest that the *financial crisis that started in 2008 may be regarded as a special balance sheet recession accompanied by portfolio imbalances*, which alone explains why the present downturn incurs higher macroeconomic costs than a recession that takes place as part of the traditional business cycle. This is attributable to the fact that before the bursting of the bubble, economic agents of several sectors had a debt overhang, and afterwards they were forced to adjust their balance sheet, that is, they increased their savings to a great degree and curbed their consumption and investment expenditures. Prior to and during the balance sheet recession, economic agents make their decisions such that in the periods of upturn monetary policy has a substantial role, while fiscal policy is less important in terms of economic policy. On the other hand, in periods of economic downturn the efficiency of the traditional monetary policy instrument decreases, as the private sector's demand for funds practically disappears, while fiscal policy has greater importance in stimulating demands.

The common shortcoming of the present mainstream academic literature of mainly New Keynesian grounding and the economic policy responses to the balance sheet recession is that they both ignore the special feature of the financial crisis, namely that as a result of the build-up of financial imbalances it represents a portfolio imbalance. However, this has a number of economic policy consequences: the *portfolio nature of the balance sheet recession* alone *highlights the false nature of certain economic theories which were widespread and regarded as mainstream before the crisis and the economic policies built on them, and the incorrect diagnosis and management of the balance sheet recession also contribute to the present fragile recovery*.

The current approaches to crisis management all assumed that the current crisis was similar to previous ones; it developed due to flow imbalances and that the economic agents strived to maximise their profits. Accordingly, the economic policy answers proposed monetary policy stimulus and – to prevent crowding-out – a reduction of the budget deficit. However, during the adjustment that followed the balance sheet recession – due to the decline in the private sector's credit demand – the interest rate channel of monetary policy weakens and the efficient functioning of the exchange rate channel is also hindered by a number of factors. In addition, the reduction of the budget deficit also has an unfavourable impact on the economy, due to the fact that on the context of strong deleveraging by the private sector and close to the zero lower bound the coefficient of the fiscal multipliers is higher, which – in a synchronised balance sheet recession – increases the real economic costs of budgetary adjustments. Due to this, the confidence-building effect expected from the reduction of the deficit may not happen, or – in an unfavourable situation – it may even worsen due to the deterioration of the debt ratio, arising from the faster decrease of the denominator (GDP) than that of the numerator (debt).

One of the economic policy lessons learnt from the balance sheet recession is that in times of downturn it is the duty of fiscal policy to provide itself – through its countercyclical behaviour – with sufficient room for the management of the balance sheet recession and for the support of deleveraging by the actors of the private sector. Some believe (Koo) that for the stimulation of aggregate demand it is sufficient to implement the aggregate demand-stimulating fiscal policy inspired by Keynes, while others (*Borio; BIS*) say that the existing room for fiscal manoeuvre must be used in a targeted manner, e.g. for bank recapitalisation and the support of debt restructuring. Apart from them, the IMF also acknowledged that it was a mistake to treat the East-Asian crisis as a "traditional" crisis and that fiscal austerity prolonged the crisis.

In addition, the present financial crisis also highlighted the fact that without elaborating a proper prudential regulation and applying it with due strictness, the self-regulation capacity of the market is limited in the modern financial system and it is inefficient in preventing the build-up of financial instabilities. Thus, in addition to disciplined fiscal policy, macroprudential policy must also play a key role in crisis prevention; it can contribute to strengthening the financial system's shock resilience by mitigating the procyclicality of the financial system. After the crisis, this regulation must be transformed, which means that it is not enough to simply tighten it, but rather it must treat the financial instabilities – which are increasingly macroeconomic in nature – at their roots. In addition, experience shows that it would be too risky to rely solely on macroprudential instruments in the management of financial instabilities.

This is suggested by the fact that, prior to the financial crisis, the strong growth in lending and asset prices took place in conjunction with low, stable inflation, while the outbreak of the crisis then highlighted the fact that it is rather expensive to ignore the financial cycles, bearing in mind the severe and lasting consequences thereof. In light of the experiences of the financial crisis, monetary policy strategy must be reconsidered in such a way that in addition to the real economy cycles the financial cycles must also play an explicit role in the shaping thereof.

The pre-crisis mainstream economics ignored the development of the financial cycles, thus in the future – in order to prevent the development of new crises – financial stability risks must be systematically considered in the analytical framework of monetary policy. In the case of certain central banks, the shift to this approach has already started, which manifests itself – amongst other things – in the fact that the trends in lending and the asset price developments play an increasing role in the central bank's communication.

The experiences of recent years have highlighted the failure of European crisis management, based on the mainstream, New Keynesian economic principles and

they confirm the success of the aforementioned crisis management strategies: during the recovery between 2009 and 2011 there was globally harmonised fiscal easing; however, the United States and Japan were subsequently more cautious in commencing consolidation, while certain euro-area countries started to adjust the deficits that were deemed excessive, and the negative consequences can be still felt in the slower recovery. In addition, the bank recapitalisation in the euro area took place only with a delay, which prolonged banks' deleveraging. Finally, in the years that followed the outbreak of the crisis on the whole the monetary policy of the United States, the United Kingdom and Japan were more accommodating than that of the euro area; at the same time, as a result of the lasting accommodating monetary policies, the financial stability concerns related to the build-up of financial imbalances started to gain increasing importance. Based on the foregoing, it is necessary to revise the Brussels-Frankfurt-Washington consensus, recognise the importance of the macroprudential and fiscal policies and to ensure the cooperation thereof.

All in all, in light of the above, individual economic policies should support the recovery of the real economy without building up excessive financial imbalances. Thus, looking ahead, the attainment of sustainable growth requires, in addition to central bank intervention, further targeted fiscal policy measures concerning which, however, no economic policy consensus has yet been reached. This may be achieved by stimulating aggregate demand to an adequate degree and for an adequate period, by government measures aimed at the improvement of productivity and the boosting of investments, as well as by the direct support of the private sector's balance sheet adjustment. However, this is only possible if government debt is on a sustainable path in the long run as well, that is if fiscal policy has first created the room for manoeuvre of proper degree for the management of the downturn. *However, if no proper economic policy responses are given, the balance sheet recession may persist over the long run or become a recurring phenomenon.*

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