

Possible explanations of the low inflation environment and restrained investment activity*

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As a result of the crisis that erupted in 2008, economic activity and inflation have remained weak in the developed countries, and signs of slowdown have also been seen in emerging countries that had performed relatively well in the initial years of the crisis. The slow rate of growth and persistently low inflation create new challenges for monetary policy. The correct economic policy answers can only be found by exploring the reasons for this phenomenon. In 2015, the key focus was often on short-term factors such as falling oil prices. Prices of other commodities have shown similar volatility in recent years, implying that short-term inflation surprises are not only being caused by developments in the energy market. At the same time, core inflation indicators excluding food and energy prices were also low, raising the question whether the inflation trends are dominated by medium-term or long-term factors. One possible explanation of the poor performance of the real economy is that in the pre-crisis years, growth was based on significant indebtedness of economic agents, which were then forced to adjust their balance sheets after the asset price bubble burst. This is a process stretching over several years, and it suggests low inflation and growth rates over the medium term as well. In the views of others, the present slow growth is the continuation of a trend lasting several decades that had already started before the crisis and was only interrupted by the crisis and the adjustment. One group of long-term explanations explains the lengthy recovery with real economy factors, including the imbalance between savings and investments (“secular stagnation” and “savings glut” theories). However, more and more people are emphasising the limitations of these real analyses, and explain the restrained investment activities with changes in the financial structure, corporate finance and corporate governance. This paper deals with the reasons for the globally low inflation, which has recently come into focus for many leading economists and international organisations. We summarise the different views and opinions, which – due to the nature of the issue – primarily reflect the considerations of developed countries, but indirectly determine the future of the whole world economy.

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1. Introduction

Seven years after the crisis that peaked in 2008, the monetary policies of the key developed countries are still moving in different directions, as the economy of the United States shows relative strengthening compared to Japan and the eurozone. In the meantime, the significant drop in oil and other commodity prices and the subdued wage dynamics raise the risk that inflation may lag behind central bank targets for a longer time, and in some cases, the emergence of deflation also cannot be ruled out (*Figure 1*).

Due to the slow economic growth rates and low inflation, interest rates are historically low or (sometimes) negative, and therefore the effectiveness of the traditional monetary policy tool, i.e. the key interest rate, is decreasing (*Figure 2*). This new environment generates new challenges for monetary policy, and it can address those only if it is able to properly diagnose the reason for low inflation and slow growth and find the appropriate tools for raising inflation to the target level. In the following, we describe the key possible explanations of the phenomenon mentioned in economic debates and the related possibilities of handling it with economic policy tools.

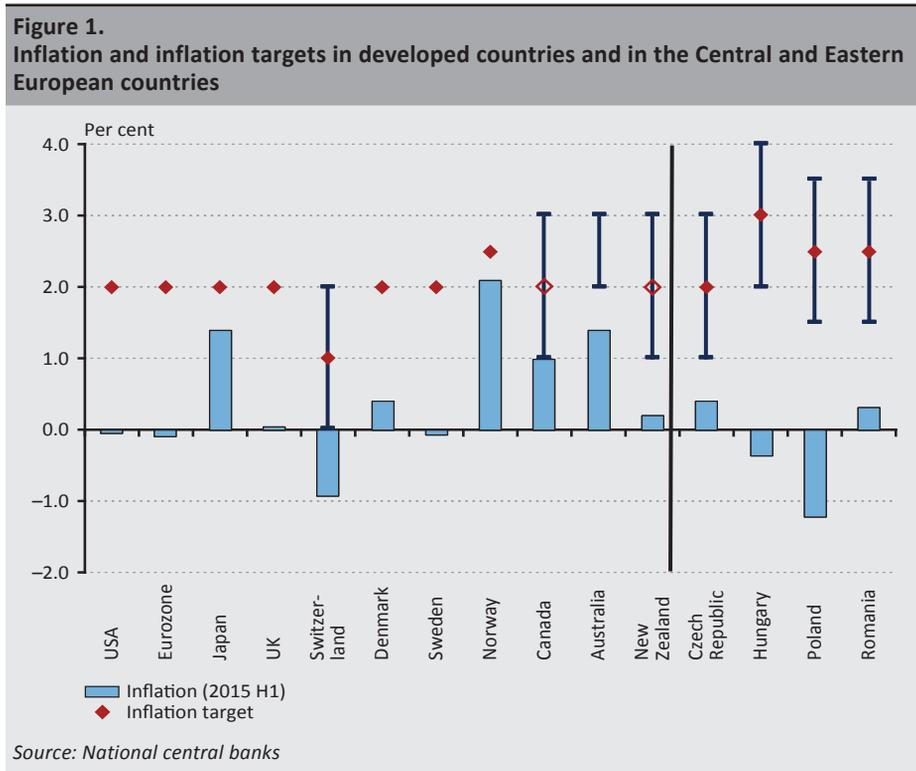
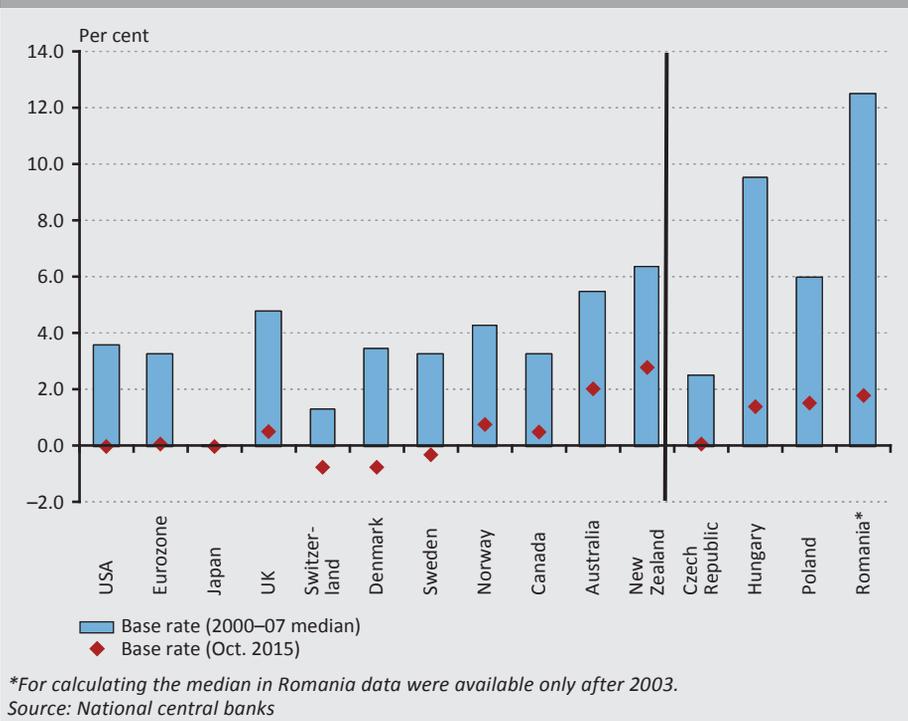


Figure 2.
Policy rates before and after the crisis



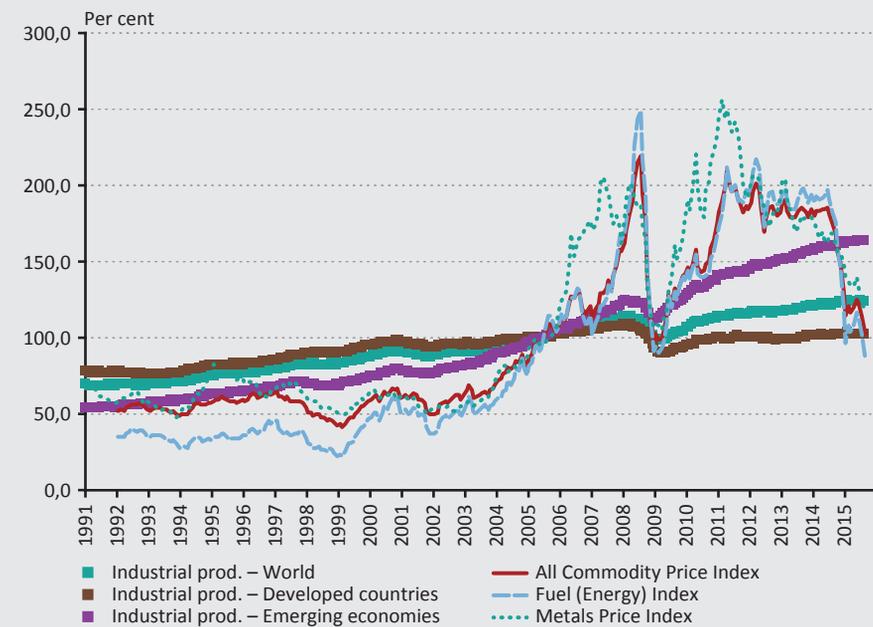
2. Short-term factors: low commodity and oil prices

In recent months, commodities with usually volatile prices, such as oil and other commodities, have received the most attention in explaining the unexpectedly low inflation. At the same time, core inflation indicators excluding food and energy prices were also low and are also expected to remain low over the usual forecast horizons, raising the question whether inflation trends are dominated by medium-term (cyclical, financial) or long-term (permanent, real) factors.

After a four-year period when oil prices ranged at over USD 100, prices started to dramatically fall in mid-2014, with the price of the Brent oil dropping below USD 50 at the beginning of 2015. The most frequently cited explanations include the upswing in the extraction of American shale oil on the supply side, and falling oil demand because of the poor Asian and European growth. *However, it is widely believed that real economy processes alone did not justify the extent of the changes in prices, and that these changes may have been amplified by financial market factors affecting the oil and commodity markets.*

Figure 3 shows the development of industrial production in developed and developing countries and the whole world, together with certain commodity and energy price indices. The figure implies that there were also other factors which played a role in the development of the oil price, apart from the real economy factors. Although the development of the oil price has recently received more attention, if we look at a longer horizon, it is clear that prices of other energies and commodities have moved similarly to the price of oil. This observation reduces the persuasive force of arguments which explain the development of the oil prices with oil market factors such as the quite spectacular expansion of shale oil production or features in the oil storage and transport capacities. It is also obvious that commodity and energy price indices tend to move between extremes more frequently than industrial outputs, which represent user or “real” demand. Similarly to the price of financial assets, oil and commodity prices exceed their own trends and the trends in industrial production, both in times of recovery and recession. This may indicate that movements in commodity prices, including oil prices, are also strongly influenced by expectations on the financial and speculative markets.

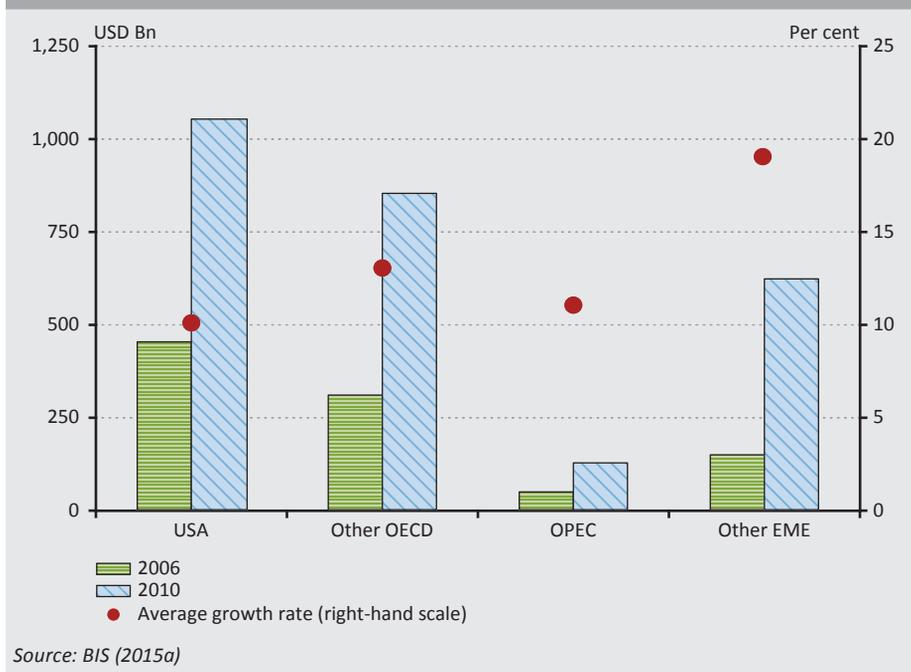
Figure 3.
Industrial production and commodity price indices
 (2005 = 100)



Source: IMF (2015c) and Bureau for Economic Policy Analysis (2015)

The BIS (2015a) has pointed out that since 2006, borrowing by oil extraction companies – mainly outside the USA – has increased dynamically, and this has taken place in the context of low interest rates and weak US dollar rates. Together, the high level of indebtedness and its USD denomination, as well as the low oil prices, may cause serious financial difficulties for these firms. As a result of falling oil prices, the profitability of companies decreases, which causes liquidity problems, and thus the risk of bankruptcy and non-performance increases. In addition, appreciation of the US dollar in itself increases debt servicing burdens for many companies (Figure 4). Companies may react to the situation in different ways. On the one hand, they may sell their existing assets and equipment, and reduce their capital costs. On the other hand, seriously indebted extraction companies may maintain or even increase their extraction in spite of the low oil prices, in order to secure the necessary liquidity and debt servicing funds, which may strengthen the initial fall of oil prices and may force additional balance sheet adjustments.

Figure 4.
Debts of oil and gas companies



In addition to oil extraction companies, a number of financial investors (from pension funds to hedge funds) took positions financed with cheap loans at low interest rates on the forward and derivative oil and commodity markets. As expectations about a rate increase by the Fed strengthened, costly positions

were closed and derivative contracts were sold, pushing oil and commodity prices downward, and exacerbating the fall in spot market prices.¹

Another important factor is that the development of energy prices plays a strong and (over the short term) determining role in the path of the consumer price index, although to different extents in each country. However, the pass-through of commodity prices to the consumer price index may change over time: in the 1970s and 1980s, high oil prices increased the price of other products as well and also raised core inflation and inflation expectations as well. Although the role of commodity prices in the consumer price index has continued to rise (*Figure 5*), over the last two decades these secondary effects have been mitigated, as movements in energy prices are reflected in core inflation indicators to a lesser extent² (*BIS 2015b*). At the same time, core inflation indicators which eliminate the development of food and energy prices were also low, possibly implying that the evolution of commodity prices is not the only factor playing an important role in low inflation (*Figure 6*).

On the whole, one of the explanations for the low inflation which received the most attention was the development of oil prices. However, the development of oil prices may have been influenced by individual factors affecting the oil market which will slowly fade and will hardly be repeated to a similar extent. At the same time, it can be observed that in terms of the evolution of the low inflation environment, restrained commodity prices in a wider sense also play a significant role, and they are not affected by the features of the oil market. Financial market conditions determining the global economy have a direct influence on the development of oil and commodity prices, which are becoming more similar to financial assets. Their increase or decrease in itself gives little information on the real economy demand and supply conditions, because the prices are strongly influenced by expectations about future energy and commodity prices. In addition to real economy factors, prices are also influenced by volatile financial conditions and expectations about monetary policy steps, and the interactions of these factors as well.³ *Nevertheless, core inflation indicators excluding food and energy prices have also remained low,*

¹ Fluctuations in commodity prices are further amplified by the fact that some investment banks used the various goods as collateral for their additional borrowings, and therefore withdrew large quantities of these goods from the physical markets. When the US Congress initiated a procedure against them because of price fixing, this collateral entered the markets in large volumes, putting pressure on prices on other commodity markets. The process in which the development of commodity prices is increasingly determined by financial market processes, and the prices behave like in those markets, is called the “financialisation” of commodities. This term had been used before by some economists for modern large companies, households and even for modern economies in general (See section 4.7 for more details).

² In addition to commodity prices, the development of the exchange rate is another factor that plays a key role in the development of inflation over the short term. In this respect, experiences also indicate that the extent of exchange rate pass-through has decreased recently (*BIS 2015, p. 68–70*).

³ Such expectations often have a only very indirect relationship with so-called fundamentals, which are usually driven by the physical demand determined by economic growth prospects and the physical (production and warehouse) capacities. See *Thaler (2015)*.

Figure 5.
Correlation between commodity prices and inflation

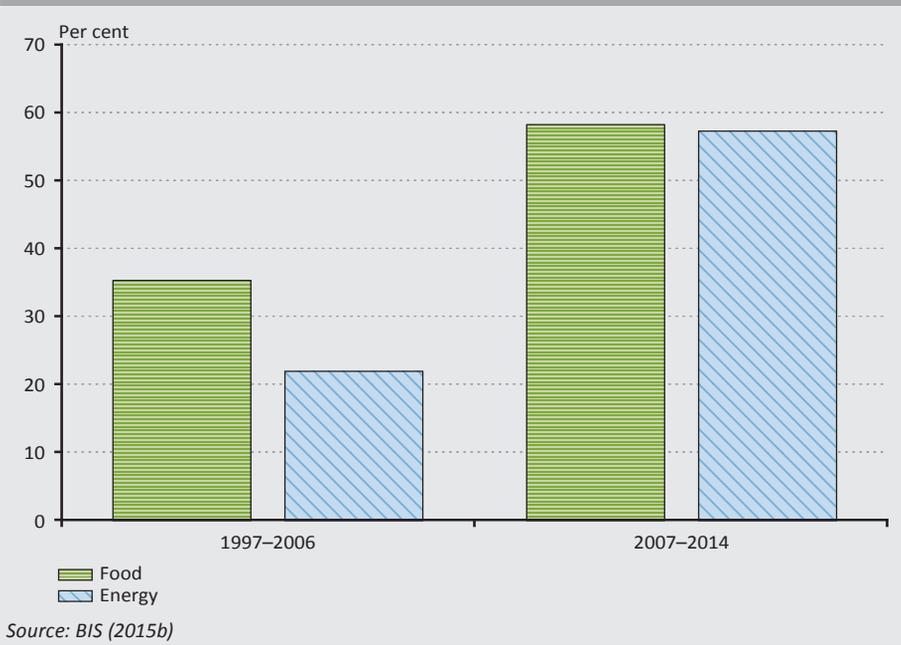
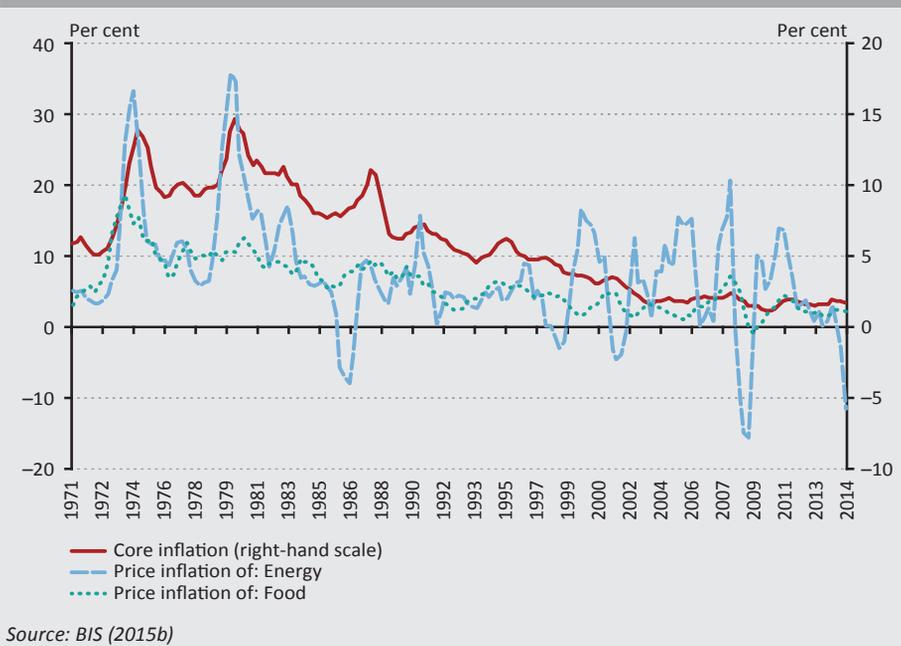


Figure 6.
Core inflation and commodity prices



raising the question as to whether inflation trends are dominated by medium-term or long-term factors.

3. Medium-term explanation: balance sheet recession

The fact that the so-called core inflation indicators, which do not contain food and energy prices, were also low, strengthens the arguments that medium-term cyclical factors related to financial processes also play a role in the development of inflation. Therefore, one potential explanation for the current low inflation coupled with moderate growth is the balance sheet recession and balance sheet adjustment by economic agents.

The dynamics of balance sheet crises are as follows: with optimistic expectations regarding the future, economic agents become indebted too quickly and to a high extent, which leads to the creation, and then bursting of an asset price bubble. Following the bursting of the asset price bubble, economic agents face a significant drop in their income and in the value of the assets used as collateral for their loans, and therefore repayment of their accumulated debts represents an increasingly difficult challenge, prompting them to increase their savings. In the course of this balance sheet adjustment process, conventional monetary policy stimulus is not an efficient tool until the willingness of the private sector to borrow is adequately strengthened. Consequently, fiscal stimulus which is lasting and significant enough may be efficient in boosting demand. When the fear of extreme indebtedness is reduced, and economic agents begin to show higher funding requirements, monetary policy can be efficient again. However, when the optimism of economic agents becomes too high, it may generate another financial market bubble, and may cause another crisis (on the reasons, dynamics and management of balance sheet crises, see *Koo 2014 and Csontos–Szalai 2015* for more details).

Therefore, the lengthy recovery may be justified by the fact that indebted economic agents attempt to adjust their balance sheets. This means that during the period of balance sheet adjustment, households and companies spend their extra income on faster repayment of their debts, instead of taking new loans or realising new investments, and therefore they can save the new funds (“flows”), and spend them on the restoration of their balance sheets and on the termination of their portfolio burdens (“stock”) and debts. As a result of this, the greater the damage to the balance sheets, the longer the cleaning lasts. In addition, when synchronised balance sheet adjustment occurs – i.e. when several sectors within a single economy (e.g. households, companies, banks) or, in the world economy, several countries or regions attempt balance sheet adjustment at the same time – it makes the efforts of the agents more difficult, and thus leads to a more dramatic fall in aggregate demand and a delayed recovery. Poor demand will also

ultimately have an adverse effect on output, as a result of which a situation close to stagnation may emerge (*MNB 2014, Chapter I*).

In Koo's view (*Koo 2014*), this phenomenon may be mitigated if fiscal policy plays an effective role in crisis management and supports the increased income of economic agents with fiscal stimulus of proper extent and duration, at the cost of budget indebtedness. This can be successful because in the case of low capacity utilisation, the fiscal multiplier is larger, and because of the balance sheet adjustment of the private sector, the crowding-out effect of fiscal policy is not as intense, while the inflation risk is also low. Koo emphasises that fiscal stimulus must be maintained for several years even after the completion of the balance sheet adjustment, as the sudden withdrawal thereof may revive deflationary risks. This is attributable to the fact that those agents who had to adjust their balance sheet will be under the psychological effect thereof, even after completing the process and they are reluctant to become indebted once again.⁴ In addition to *Koo, Rogoff (2015)* also emphasises that initially fiscal policy was effective in crisis management, but that tightening was introduced prematurely, as a result of which the recovery took a "U" rather than a "V" shape.⁵

Borio accepts⁶ Koo's diagnosis, i.e. considers the lengthy recovery as a consequence of the balance sheet crisis. *At the same time, the colleagues of Borio and the BIS⁷ point out that the interaction between the real economy and the financial cycles played a key role in the outbreak of the financial crisis.* Prior to the financial crisis, stable growth was seen, and at that time it seemed to be sustainable, with low inflation. At that time, economic agents and decision-makers did not identify signs of overheating because of the moderate domestic inflation and wages, which did not start to rise as a result of the mass entry of new producers to the market and the intensive global labour market competition. Despite prices of financial assets, real property and commodities indicating overheating, these products with volatile prices were not considered reliable economic indicators. The lessons from the financial crisis underlined that movements in both real economy and financial cycles, and especially their impacts on each other, need to be considered in making decisions on economic policy.

⁴ This is confirmed by previous experiences. For example, following the crisis in 1929, agents performing balance sheet adjustments did not take any further loans during their lifetimes. Another example is the case of Japan, where the balance sheet adjustments of the companies were finished around 2005, but there is still no sign of their improved willingness to borrow, even with the present historically low interest rate level.

⁵ Most forecast producers thought that the recovery, once started, will take a V shape. Finally, however, it took a U shape, as expected by several academic economists who studied the previous financial crises and loan cycles.

⁶ *Borio (2012), p. 16.*

⁷ *Borio (2012), p. 14, BIS (2014), p. 65-68, BIS (2015b), Chapter III.*

Accordingly, economic policy-makers must consider financial stability considerations in formulating and implementing strategy, i.e. the real economy and financial cycles should behave in a more symmetric way both during the recovery and recession phases. In the case of macroprudential policy, for example, this can be implemented easily, with the appropriate use of an anticyclical capital buffer or debt brake rules. Central banks may implement a more symmetric monetary policy if they start to restrain overheating as early as the recovery phase, or if recession comes, they do not react with quick and extensive easing. Borio and his colleagues think that asymmetric economic policy played a significant role in the development of the present and previous crises,⁸ because during the recession the strong easing and supportive policies put an end to incentives for writing-off and rescheduling bad loans, and therefore the next, recovery phase of the financial cycle started from a higher debt level, which continuously strengthened the cyclical fluctuations and increased the costs of the following recessions.

In the respect of fiscal policy, a symmetric economic policy reaction means that management of the balance sheet crisis cannot be successful with fiscal expansion alone, because such expansion (similarly to monetary policy) will generate even bigger future bubbles and financial crises, in addition to the temporarily useful stabilisation function. Therefore, if there is still room for manoeuvre in fiscal policy, it should not be used for the general stimulation of aggregate demand, but rather to support the balance sheet adjustment of the private sector in a targeted manner, i.e. for cleaning, capitalising and restructuring the balance sheets of banks, while in the case of the non-banking sector, for debt mitigation or rescheduling. Apart from Borio, Rogoff (2015) also emphasises that economic policy decision-makers should have paid more attention to writing off debts and to the restructuring and recapitalisation of the banks.

The interactions of real economy and financial cycles are important also because in a financial recovery, in addition to overheating, *the allocation of real resources may be permanently different from the optimal, and even from an allocation that can be sustained over the long term*. In that case, the recovery from the crisis is slowed down not only by the balance sheet adjustment, but also by the real economy adjustment; in the course of this, the re-allocation of physical capital and human capital and labour can be a time-consuming process, and hence longer-term adjustment is needed to reach the growth rate of the period before the crisis (for more details, see *MNB 2015*).

⁸ According to Borio, the economic policy responses to the earlier smaller bubbles, for example the policy pursued during the dot.com crisis, contributed to the present crisis (*Borio 2012*, p. 23; *BIS 2014*).

4. Long-term explanations: possible real economy and financial factors

4.1. Real economy explanations: imbalance of savings and investments

In a study that generated keen interest, Lawrence Summers⁹ recalled a hypothesis from the period before World War II, referred to by Hansen as “secular stagnation”.¹⁰ He also acknowledges the importance of the explanation related to the balance sheet crisis, described in the previous section, but he believes that it only partially explains the current processes. *In his view, the economic dynamism of the advanced regions already faltered before the crisis and with the passing of the crisis low growth should be expected even over the horizon of a decade. Summers thinks that the present protracted slowdown is caused by structural and real economy changes.* The real economy problems underlying the decelerating growth in the pre-crisis years were concealed by the fact that the growth took place in parallel with the development of the financial bubble and imbalances, while there were no signs of overheating, due to the low inflation. Summers finds that the joint maintenance of satisfactory growth and financial stability was already becoming more and more difficult before 2007 in the developed countries.

In order to illustrate the problem, he cites the estimate prepared by the Government Accountability Office (GOA) before the crisis, in 2007, according to which the output of the USA by 2014 should have been 10 per cent higher. About half of the shortfall may be blamed on the crisis, while the other half of it is attributable primarily to the unrealised investment, and only a small part of it to the decrease in the “total factor productivity” interpreted as technical progress.¹¹ Decelerating potential output entails a decrease in the equilibrium real interest rate.¹² The low interest rate, coupled with low inflation, complicates the work of

⁹ Former Secretary of the Treasury of the United States and chief economic advisor, President of Harvard University and Chief Economist of the World Bank.

¹⁰ *Summers (2014)* Hansen defined his thesis in the 1930s in the USA, but the war-time prosperity of subsequent years put it in the background.

¹¹ Here, Summers uses the already established terms of potential output estimates based on a production function. Thus, the change in output may be influenced by changes in employed capital and labour, or a residual interpreted as technical progress, which cannot be attributed to the separate contributions of the previous two production factors. This residue is usually interpreted as the efficiency of the use of the two other factors and is called full factor productivity or multi-factor productivity. Although it is a widespread procedure which is regularly used by international organisations, central banks and other analysts, the approach has been seriously criticised for decades in both theoretical and empirical terms. Felipe and *McCombie's article (2010)* and *book of studies (2014)* offer a useful summary of this issue. One of the key conclusions is that full factor productivity estimates are based on the concept of the production function, but the latter demands assumptions which are not satisfied in a modern economy. Therefore, the output per capita (labour productivity) distribution is a mere quantitative accumulation of factors, and the contribution of the efficiency of their use is questionable and in many cases rather misleading.

¹² The equilibrium or natural real interest rate is the market rate with which the economy is neither overheated nor overcooled. In other words, the natural interest rate ensures the full utilisation of capacities, while inflation is in line with the target. It is worth noting that this term is inseparable from the production function concept, so the reservations identified in the previous footnote apply to it in the same way.

the central banks, which – in addition to trying to achieve the inflation target – aim at facilitating economic and employment growth, without jeopardising financial stability. Put differently, the objective is to ensure that savings and investments are balanced with an interest rate that ensures full employment.

In Summers' views, investment demand will lag behind savings over the long term, and therefore the equilibrium interest rate will remain persistently low, and economic growth will remain slow. *Accordingly, inflation may also remain structurally low, which increases the risk of a situation in which central banks are unable to react with proper easing in the case of negative inflation shocks.* And, indeed, *Teulings and Baldwin (2014)* define permanent stagnation as a situation like that. This can be explained by the following changes in developed countries (the first three points explain the drop in investment demand, while the last two explain the increase in savings):

- i. Slower population growth:* in the developed countries, and in China too already, population will decrease or stabilise. If the population, including the ratio of people of working age shrinks,¹³ the existing capital holdings will be relatively high compared to the number of employed people. This will reduce investment requirements, because there will be no need to fully renew the existing capital holdings. Therefore, investment and loan demand will fall, and that reduces the neutral interest rate.
- ii. Slower capital accumulation and investments:* In the modern economy, economic sectors that do not require large capital investments will have a bigger weight. These are for example Apple or Google, as these companies are among the largest in the world, they have huge free financial assets, and their developments do not require significant physical capital investments, which also reduces investment loan demand.
- iii. Technological innovation and change in relative prices:* Partly for related reasons – because of the spread of information technology – the relative price ratio of capital goods and consumer goods has changed. Capital goods have become relatively cheaper,¹⁴ and thus the same output level can be reached with less investments (lower investment ratio). The result again is reduced demand for investment loans. It is true, though, that these companies spend more on factors such as human capital or intellectual products (software, research and

¹³ If we take the indicator that also considers qualifications (e.g. human capital), the series of generations with higher qualifications seems to be coming to an end. In addition, the increasing activity of women may also soon come to an end, as a consequence of which the ratio of people of working age may not increase with the same dynamics.

¹⁴ According to some estimates, in the past thirty years, the price of capital goods fell by almost twenty per cent compared to consumer goods. If we consider quality changes as well, the relative price reduction is even larger. See *Eichengreen (2015:68)*.

development) which do not count or only partially in the investments calculated in statistics.

- iv. *Increasing inequality of incomes:* The distribution of incomes is shifted towards the direction of people with higher incomes, who have a greater willingness save. Thus, the ratio of structural savings increases in the economy, which reduces the neutral interest rate.
- v. *Ageing:* With the ageing of the society, the number of years spent in retirement increases, and therefore savings need to be increased, which reduces the natural interest rate (also, as the willingness to consume is lower in old age, and this phenomenon also reduces investment demand).
- vi. *Uncertain macroeconomic policy:* The poor predictability of economic policy decisions may also encourage economic agents to increase their savings.

Due to the factors listed,¹⁵ savings in developed countries are structurally higher than investments, which results in a low neutral (real) interest rate. This, coupled with low inflation, substantially narrows the leeway of monetary policy, which ultimately leads to negative real interest rates (and eventually also to negative nominal key interest rates). However, the presently loose monetary policy of the Fed and other leading central banks result in financial stability problems. Summers sees the following possible solutions for permanently slow growth:

- i. He thinks it is possible to follow an approach in which nothing special needs to be done, as the supply side will also adjust to the decreasing demand with time. In Summers' view, Japan acted like that for many years, and so did the USA in the past three to four years. This is exactly what is reflected in the potential output estimates, as its reduction can be mostly attributed to reduced capital stock. For the sake of the comparison, and for the evaluation of social welfare, the capital stock per capita is a better indicator, although the transition to a stable economy with a smaller population is not necessarily smooth this way either (e.g. the pension system may have to be modified).¹⁶
- ii. Another solution is to adjust market rates to the reduced neutral interest. This is one of the interpretations of the Fed's policy in the crisis. Summers finds this policy reasonable for a certain time, but also warns of its downsides: the danger of bubbles developing in asset prices, the impact on income and asset

¹⁵ See *MNB (2015)* for more details.

¹⁶ Explaining the results of the studies produced jointly with Goodhart, Pradhan actually said that the labour oversupply of decades has come to an end, and that reduced prices and inflation through a number of channels. According to their forecast, companies will have to face labour shortage in the future, which will result in the reversing of income distribution, from capital incomes to labour incomes, and inflation pressure may replace disinflation, and the shortage of labour will force increased productivity (*Pradhan 2015*).

distribution, and the danger that unviable companies may also easily survive amidst easy refinancing conditions.

iii. From the possible economic policy answers, Summers supports ones that aim at increasing aggregate demand. To this end, for example, he would allow for the increase of the budget deficit in the USA, and he thinks that budget restrictions are not advantageous. Aggregate demand can be supported in several ways, for example, from the various tools to facilitate exports to public investments in infrastructure. Referring to the simulation with the Fed model, Summers claims that a budget deficit increase of one per cent maintained for five years would permanently increase the output and reduce the debt rate after the initial growth (*Summers 2014:72*).

Summers' diagnosis was basically adopted by the IMF 2015 spring World Economic Outlook, which agreed with the key explanation factors. Oliver Blanchard made similar statements at the press conference that introduced the publication. At the same time, others reject the danger of permanent stagnation in connection with the developed countries.

Ben Bernanke, former Chair of the Federal Reserve, does not deem the initial issue, i.e. the problem of too low interest rate, to be convincing (*Bernanke 2015a; 2015b*). He finds it logically impossible for the real interest rate to remain negative in the long run, because in that case even extremely low yielding investment projects break even and as such credit demand will be infinite. In addition, Bernanke mentions that if there are not sufficient investment opportunities in the USA, the companies can look for investment opportunities abroad, especially in an environment of extremely low interest rates. Accordingly, one of the key difference is that the explanations of Summers' thesis are basically limited to the USA and the developed countries and ignore global considerations. According to Bernanke, the present low interest rates should be regarded as the temporary backwash of the balance sheet recession rather than permanent stagnation.

According to Bernanke, the imbalance in savings and investments is attributable to excessive savings ("savings glut") and not to insufficient investments. Accordingly, if excessive savings can be reduced, the problem of excessively low interest rates will be resolved. Bernanke believes that one of the main reasons for the savings glut is the excessive current account surplus of certain countries. Before the crisis, China had the highest export surplus, while now it is Germany accompanied by a number of smaller European countries. Bernanke is already inclined to see signs of adjustment. China's surplus has already decreased significantly, and in parallel with that the demand for securities issued in US dollar also dropped. The increased external surplus of the eurozone may be deemed cyclical: it soared mostly due to

the involuntary adjustment of the countries under market pressure, which will decrease as a result of the recovery.

4.2. Limitations of real analysis: explanations related to the changes in the financial structure, corporate financing and corporate governance

In the debate on permanent stagnation, both Summers and Bernanke started from the required balance of savings and investments, which is ensured by the equilibrium interest rate. They assume that agents make their decisions on the basis of real variables, with inflation filtered out. The banking sector mediates the savings considered as real variable to loan applicants who intend to make investments. Among the possible explanations described in the previous section, the debate is about the issue whether interests rates are low because of the high savings or the low investments, compared to each other.

This widespread approach has been strongly debated recently by economists in mainstream economic policy (*Borio–Disyatat 2011; Nealy et al. 2014*). Lending by banks is not limited by the already existing savings and the savings they collect, the limitations of lending are to be looked for elsewhere (*Nealy et al. 2014*). Interest rates do not ensure the balance of savings and investments in real terms either, but reflect the preferences in liquidity and the uncertainty about the assumption of credit and market risks (*Tily 2013; Szalai 2014*). Extending this recognition to the international economy, global imbalances cannot be attributed only or primarily to the imbalances of savings and investments, or the current accounts.¹⁷ In the light of all that, regarding the restrained investment activity which was observed already before the crisis, there have been other explanations, in addition to the arguments of the supporters of permanent stagnation and the savings glut, and most of them can be related to changes in financial structure and corporate governance.

4.2.1. Short-termism

In the midst of the uncertainties of the crisis, demand for liquidity has grown and the abstinence from investments representing long-term financial commitments can be relatively easily explained. However, already before the crisis it was observed that companies (primarily major enterprises) had a significant volume of liquid assets and corporate savings,¹⁸ because they used a smaller part of their profit on the development of their own physical and human capabilities and on the financing of research and development activities. Instead, they spent an

¹⁷ In the modern world economy, capital flows do not simply compensate for current account deficits in a “passive” way, but independently of them, or in a way that determines them, play an active role, i.e. the gross flows have at least the same influence on financing conditions (*Borio–Disyatat 2011; MNB 2014*).

¹⁸ IMF (2006) noted that in 2003–2004 corporate savings in the G7 countries were twice as high as the current account surpluses accumulated by less developed countries, which represented a “paradox” capital flow from the less developed towards the developed.

increasing part of the funds on financial market activities, payment of dividends to shareholders, and the amounts used for share repurchases that served as emoluments to company managers increased dramatically.¹⁹ *This shows that restrained innovation and decelerating investments are not caused by the lack of financial sources only.* Both American and European large companies keep liquid assets over one trillion USD or EUR in bank deposits with very low (sometimes negative) interest rates, and in similar, not really sophisticated investment assets.²⁰

Venture capital companies, which play an important role in the USA in the financing of innovations, are less keen to undertake financing research projects in early phases and prefer to focus on less risky phases which are closer to market entry (*Mazzucato–Wray 2015*). In light of this, the government plays an increasingly important role as the party financing innovation and the party determining development directions. However, in developed countries, development banks have been gradually terminated or their activities have become more limited. In the course of fiscal adjustments, governments often restrain investments that influence research and development and long-term compatibility, while the private sector, in spite of its significant sources, does not finance the phases that involve the highest risks, at least not to the extent it did in previous decades. *Mazzucato* explains in a number of studies that in the development of innovative products that are considered as the most successful products, the states – mainly the USA – played a determining role, and spent enormous funds on these products,²¹ while successful companies attempt to reduce their tax burdens. However, when individual products achieve market success, the states have a relatively low share in the financial results. *As a consequence of all this, less research and development funds are created than necessary, as not enough funds from the results of the market utilisation of earlier innovations are spent on basic research, and this leads to moderate investment performance on the whole.*

4.2.2. *The role of “active investors” in corporate governance*

The earliest criticism of the so-called “shareholder value” management concept is related to the name of *Lazonick (Lazonick 1992)* and is now shared by more

¹⁹ *Lazonick (2014a; 2014b), Mazzucato and Wray (2015)*. The 449 companies that belong to S&P 500, and that were present on the stock exchange from 2003 to 2012, spent 54 per cent of their total profit on open market share repurchase, and 37 per cent on paying dividends. This way not much of the profit was available for financing developments. See also the comments of *Haldane*, the chief economist of the Bank of England on the short-termism of markets (*Haldane 2011; 2015*).

²⁰ In order to indicate the order of magnitude, we wish to mention that in order to boost bank lending and corporate investments, the ECB wishes to increase its balance sheet by September 2016, by purchasing securities in the value of one trillion euro, under an extended asset purchase programme. See *Tett (2015), Long (2015), Association of Financial Professionals (2015)*. It should be noted that, small and medium-sized enterprises – which may have very different financial positions – play an important role in employment in the national economy, but not in investment.

²¹ These companies include some that are considered as the most innovative ones, such as Google, Amazon, Apple, Facebook etc.

and more people.²² Rejecting the optimism of *Jensen (1991)* and followers, he used data to explain that management incentives in the form of share options did not result in the strengthening of the long-term approach of the management (*Lazonick 1992; 2015*). On the contrary, the management has a number of tools to influence the share prices of its own company with methods that might as well be against the long-term interests of the company. Rewarding the management with share options in their own company was in fact the financing of their retirement and did not result in expanding investments and strengthening the interests of the management in the long-term viability of the company.

The OECD report of this year on corporate outlooks (*OECD 2015*) dedicated a separate chapter to this subject. They point out that in principle by requiring continuous profitability “active shareholders” or “impatient” investors (pension funds and other institutional investors) may play a positive role against corporate governance that has become too comfortable and fails to grab the business opportunities. However, they add that *in some of the cases, the same active shareholders may set a higher hurdle rate against the return of investments*. In an environment with as low financing costs as experienced nowadays, managers are willing to give in to pressures for short-term yield expectations and pay dividends even from loans, even at the expense of investments which would ensure long-term competitiveness. The OECD considers this a mechanism of the same value as the increase in the effective risk premium, which increases the return expected from investments, i.e. the return threshold. They show that the majority of companies’ operating cash flow is spent on rewarding active shareholders and on share repurchases, which is unfavourable for investment activity (*Figure 7*).

In the views of the OECD, one of the most important current mysteries is that as a consequence of loose monetary conditions following the crisis, investors detect low risks on the financial markets, while companies sense high risks when they make investment decisions. Therefore, the hurdle rates related to new investments are so high that in spite of the historically low riskless nominal interest rates economic growth is restrained in several regions because of the lack of investments.²³ One of the biggest current challenges for economic policy-makers is how to achieve growth in investments and avoid the creation of financial instability and bubbles in the meantime.

4.2.3. Use of corporate borrowings

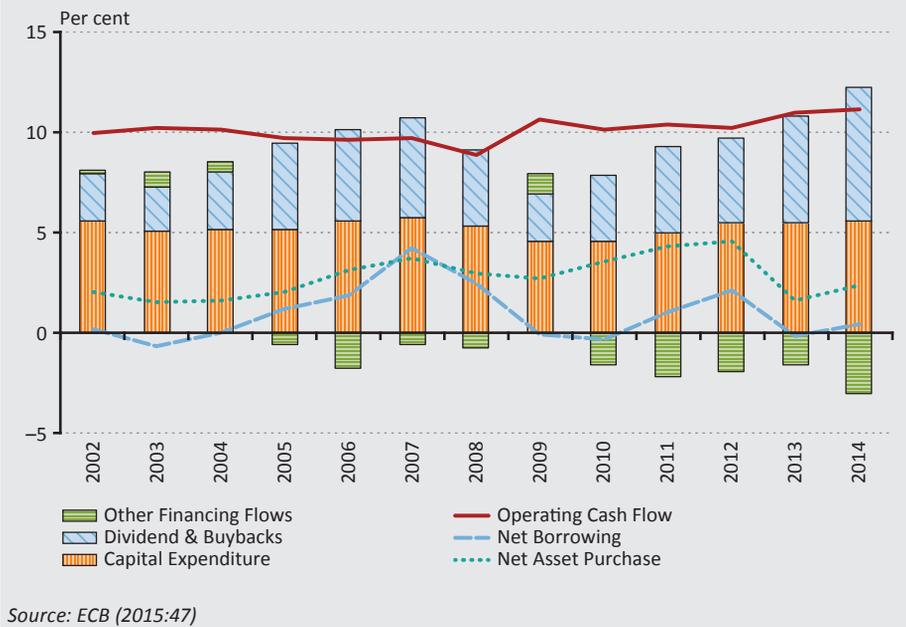
The OECD report also states that in the USA and Europe *companies would be able to finance investments from their net incomes (operating profits), and enough*

²² Aglietta (1995), Mazzucato and Petta (2014), Mazzucato and Wray (2015), Haldane (2015).

²³ ECB (2015:31)

funds would remain for dividend payments and share repurchases²⁴ (Figure 7).²⁵ The problem is that corporate borrowings (which decreased significantly during the crisis and are only gradually increasing) *did not primarily finance capacity-expanding investment, but rather dividend payments and share repurchases*. Having examined the finances of large American companies for a longer period, Mason came to the conclusion that compared to earlier decades, companies spend and take out external loans not on the financing of investments, but rather on dividend payments and share repurchases (Mason 2015).

Figure 7.
Expenditures and funds of industrial companies in the USA as a percentage of net sales



4.2.4. High corporate real interest rates

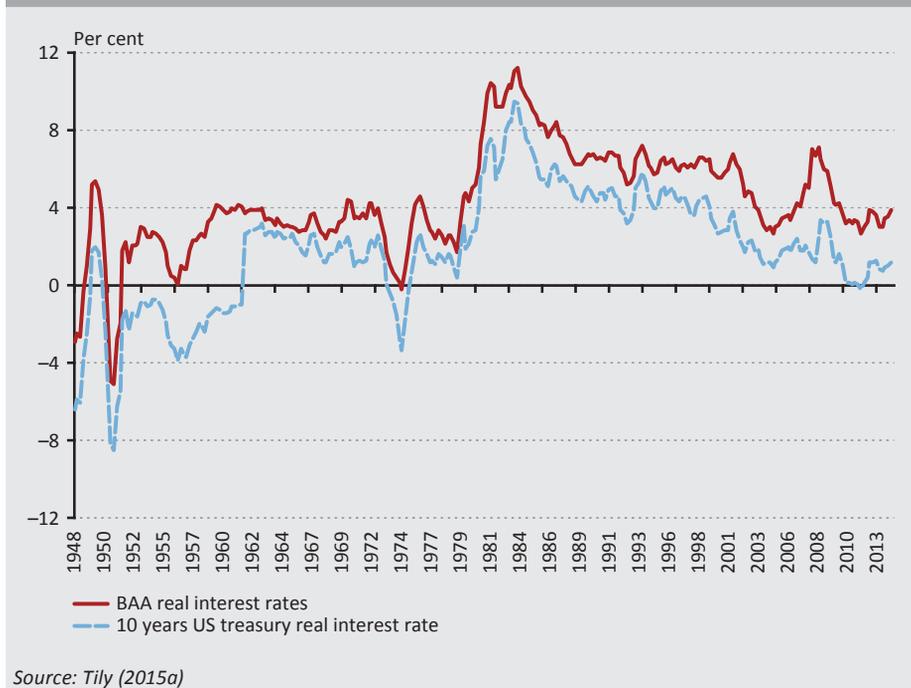
Tily draws attention to the point that *unless we are looking at the real interest rates of corporate bonds with the best credit ratings, we cannot talk about especially low capital costs at all*. In his calculations, even nowadays, with the historically low nominal rates and with key rates that are close to zero or sometimes negative, real interest rates on US corporate bonds with BAA rating are around 2–3 per cent, and they have just reached the *maximum of the golden age of growth* which lasted from World War II to the 1970s, i.e. the fast economic growth of the “golden age”

²⁴ Share repurchases are especially high in the USA, the United Kingdom and Switzerland, but represent a significant item in other European countries as well.

²⁵ A similar trend is also valid for large European companies, see OECD (2015), p. 48, Chart 2.12.

was characterised by lower real interest rates (Figure 8). On the other hand, in the years preceding the crisis, both real interest rates and nominal interest rates were higher. Taking a closer look, we can see that in periods characterised by deregulation, liberalisation and privatisation, real interest rates were high, which is just the contrary of what is expected from the measures.²⁶

Figure 8.
Historical development of real interest rates



In the 1980s, deregulation, liberalisation and privatisation were expected to facilitate the optimal allocation of real resources and financial risks, to strengthen motivation by increasing competition and reducing costs of funds, and to improve competitiveness and boost investments. *However, looking back we can see that deregulation, liberalisation and privatisation in their own right, without the proper adjustment of macroeconomic policy, entail serious risks: the funds available for the real economy and for the financing of investments did not necessarily become cheaper, and the allocative efficiency was also poorer than expected, which may have played a role in the outbreak of the financial crisis in 2008.*²⁷ These assessments link the falling growth rate in developed economies to this

²⁶ Tily cites the regular IMF publication of 1985, which calls it the most stunning mystery that corporate short-term and long-term rates were historically high in spite of the measures (Tily 2015a, footnote 5 and 2007/2010, p. 293).

²⁷ Cecchetti et al. (2015), Cournède et al. (2015), Zingales (2015).

transformation.²⁸ Earlier, we indicated that the corporate sector still has significant liquid assets, while investment activity remains below the level from before the crisis (*IMF 2015b*). However, this can only partially be blamed on balance sheet adjustment, as investment activity was low before the crisis as well, because of high real interest rates. *Tily emphasises that in the period before the crisis, high real interest rates did not offer proper incentives for robust investment activity, while high nominal interest rates also contributed to the continuous increase in debt portfolios.*

Tily refers to his own research work (*Tily 2007/2010*), in which he explains that Keynes also considered monetary policy important (as opposed to later interpretations), and did not focus exclusively on fiscal policy. This refers to the period in the age of Keynes, which can be characterised with stagnation, when *Keynes himself attempted to create a monetary policy strategy framework which supported high investment activity. In order to achieve that, the monetary policy frameworks have to ensure low nominal and real interest rates permanently and in a predictable way.* In Keynes' analytical monetary policy framework, appropriate monetary policy is able to influence real interest rates on a permanent basis. Present analysis frameworks – such as the above debates on the theory of permanent stagnation – usually lack this approach, as they say that real interest rates are determined by real factors only (e.g. the marginal productivity of capital).

The monetary analyses going beyond the real analyses applied by the participants of the debate on permanent stagnation – as indicated by the above discussion which is far from complete – offer additional recommendations to boost permanent and sustainable growth. They suggest structural changes which create *“patient” financing for both basic research and the development into a market product and market launch*, in which the state must play a major role. In addition, corporate profits should come from the basic activity, and the incentive system of corporate managers should be transformed in such a way that it encourages behaviour that results in sustainable and fast growth. Companies should not only maximise shareholder value, but should ensure the long-term growth in the well-being of other stakeholders (e.g. employees, customers, suppliers, etc.).

This article does not endeavour to discuss the recommendations for such comprehensive changes.²⁹ We merely wished to draw attention to the fact that even before the crisis, there were processes – not only in the real economy, but in the financial and monetary areas as well – which pointed in the direction of permanently slow growth or even stagnation. *Therefore, a simple return to the liberalised financial and banking system in place before the crisis and to the*

²⁸ See for example *Lazonick (2014a)* and *Mazzucato and Penna (2014)*.

²⁹ Interested readers may gain insight into these recommendations among others from the works of *Mazzucato et al.*, *Lazonick and Haldane* as referred to above.

financial incentives of that time does not guarantee that deceleration or stagnation can be avoided.

Although the historically loose monetary conditions and the application of non-conventional tools are useful in reducing the costs of the crisis, they can achieve only partial success in reaching a satisfactory growth rate. *As shown, the main reason for poor investment activity can hardly be the lack of corporate financial resources in itself, at the macroeconomic level. Instead, the current restrained investment activity and overly low inflation can be explained by a lack of confidence in the long-term existence of a environment characterised by weak growth prospects and low nominal and real interest rates.*

This suggests that the analytical framework is changing in such a way that the operation of the financial sector and the behaviour of its agents has fundamental importance in macroeconomic processes. Thus, the fundamentally real models which were widely applied before the crisis and are still often used cannot be effective for describing the economic processes (Buiter 2009; Haldane 2012). Although the role of the financial sector is becoming more and more accepted after the crisis, its inclusion into real models cannot be a solution in itself. Frictions modelled in this way only explain why the non-banking private sector does not get enough loans. However, we indicated above that the main reason for the low investment activity of large companies in developed countries is not the lack of financial sources. The solution could be a return to the monetary concept related to the names of Wicksell, Schumpeter and Keynes, as in that analysis frame, the financial sector is in interaction with the real sector, which does not necessarily strives for a balance.³⁰

5. Summary

The new environment following the crisis results in new challenges for monetary policy, which can address these challenges only if it is able to properly diagnose the reason for low inflation and slow growth, and find the appropriate tools for raising inflation to the target. The article reviews the short, medium and long-term factors that may be behind the current developments.

In connection with falling oil prices, short-term explanations received greater attention in 2015. Since the middle of 2014, the price of the Brent oil has decreased significantly, which was most frequently explained by the increase in the American shale oil extraction and the moderate global demand environment. However, it is widely believed that real economy processes alone did not justify the price changes, and that they may have been amplified by market factors affecting the oil and commodity markets. This may indicate that movements in commodity prices,

³⁰ More details, see Aglietta (1995/2005), Borio et al. (2011), Borio (2012), Minsky (1986).

including oil prices, are also strongly influenced by expectations on the financial and speculative markets. It can be seen that the prices of other commodities showed similar volatility in the past years, which implies that short-term inflation surprises are caused not only by the features of the energy market. At the same time, core inflation indicators, which eliminate food and energy prices, were also low, raising the question whether inflation trends are dominated by medium-term or long-term factors.

According to the approach related to medium-term factors, the balance sheet crisis after 2008 and the ensuing balance sheet adjustments by economic agents explain the current low inflation environment which is coupled with moderate growth. This view emphasises that in the years before the crisis, economic growth based on the significant indebtedness of economic agents, which attempted to adjust their balance sheets as soon as possible after the asset price bubble burst and to spend their extra income on reducing their debts, while refraining from making new investments from new loans or using their own resources. In Koo's views, this phenomenon may be mitigated by fiscal policy playing an effective role in crisis management and supporting the increased profits of economic agents with fiscal stimulus of proper extent and duration, at the cost of the indebtedness of the budget. The BIS staff adds that the interaction between the real economy and financial cycles played a key role in the outbreak of the financial crisis, and therefore this aspect will have to be systematically considered in the future, in the course of formulating strategies and implementing economic policy. In practice, this means that individual policies have to behave more symmetrically in both the recovery and the recession phases of the real economy and financial cycles.

One group of long-term explanations explains the low inflation and the lengthy recovery with real economy factors, including the imbalance of savings and investments. Although the theory of permanent stagnation associated with Summers acknowledges the importance of Koo's concept of the balance sheet crisis, he considers Koo's concept to be only partially suitable for explaining current developments. In his view, the economic dynamism of advanced regions was already interrupted before the crisis and with the passing of the crisis low growth should be expected even on the horizon of a decade. Summers says that a number of factors (e.g. slower growth of population and technological development, etc.) may play a role in the fact that savings are structurally higher than investment in the developed countries, which results in low neutral (real) interest rate. In this case, there is an increased risk that in the case of negative inflation shocks, central banks are unable to react with proper easing in order to stimulate the economy. Summers says that one of the possible economic policy answers to the permanent stagnation is to boost aggregate demand by increasing the budget deficit. As opposed to Summers, Bernanke does not accept the hypothesis of permanent stagnation: he thinks it is logically impossible for the real interest rate to stay

negative on a permanent basis. He believes that the imbalance between savings and investments stems from the excess size of savings, and if the too high current account surpluses decrease, the problem of too low interest rates will be solved.

However, more and more people emphasise the limitations of these real analyses. These approaches also underline that low investment activity was already typical before the crisis, but it was caused by financial factors, e.g. changes in the financial structure, corporate finance and corporate governance. On the one hand, companies have a significant amount of liquid assets and savings, but they spend only a small portion of that on research and development or investment activities (shorter return horizon). In light of this, the state plays an increasingly important role as the party financing innovation and the party determining development directions. On the other hand, the role of “active investors” has changed in corporate governance, as they expect continuous profitability, but their yield expectations set a higher threshold for the return of investments, which may also lead to the restrained investments. In addition, it was more and more typical before the crisis that when large companies took out external loans, which served the financing of investments to a lesser and lesser extent, these loans were used for dividend payments and share repurchasing. Finally, we point out that although nominal rates are historically low, the real interest rates of corporate bonds are relatively high, which is another obstacle to the expansion of investments.

All in all, we can say that – based on the monetary and financial analyses that go beyond the real analyses – macroeconomic frameworks and structural changes are required to realise “patient” financing for basic research and development, and create growth-supporting incentives which can be maintained over the long term. This points to a transformation of the analytical framework in which the financial sector interacts with the real sector. Experience shows that it is primarily not the lack of corporate financial resources that hinder investment activities, but rather the poor growth prospects and the lack of confidence in the maintenance of an environment with low nominal and real interest rates that explains the slow recovery and the low inflation environment.

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