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GLOBALISATION AND MONETARY POLICY¹

The title of the article may suggest that it presents issues important to the global economy, and not to a district, city, region or university. This is not the case, however, because the process of globalisation of production, services, investments, finance, the labour market and knowledge will continue over the coming years, irrespective of the scale of national protectionism. Therefore, the effects of globalisation will be experienced by everybody: countries, regions, local communities and individuals. If we want to achieve success, both as a country and as individuals, we have to be well prepared for globalisation.

Nowadays, globalisation is a notion frequently used in the economic debate and in fact it would be difficult to find an area of economic research that would be globalisation-free. However, the term is so broad that every person taking part in the discussion on globalisation may refer to totally different phenomena. Therefore, any discussion on globalisation and the monetary policy should commence with defining the term. One of the definitions is provided by the International Monetary Fund,² which defines globalisation as ‘the increasing integration of economies around the world, particularly through trade and financial flows’. Moreover, an element of globalisation that is worth emphasising is the fast flow of information and knowledge, which is the driving force of globalisation processes. One should also remember that globalisation is not a completely new phenomenon (see e.g. Mussa 2000). Considering the existence of political barriers to international trade, the flow of capital and goods was equally possible one hundred years ago as it is today. It is beyond doubt, however, that as a result of the rapid development of technology, especially information technology, which significantly decreased costs of the exchange, international integration of trade, investments, financial and other services is much more advanced today than before.

* The author is the Deputy President of the National Bank of Poland. The article presents private opinions of the author and not those of the institution he is associated with.

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² “Economic globalization is a historical process, the result of human innovation and technological progress. It refers to the increasing integration of economies around the world, particularly through trade and financial flows. The term sometimes also refers to the movement of people (labor) and knowledge (technology) across international borders”, in: *Globalization...* 2000.

The Economic Policy Committee of the European Union (Economic... 2005) indicates four factors which have led to the radical development of globalisation in recent years:

- Multilateral liberalisation of trade, decrease of customs duties on average by 30%;
- Successful economic reforms in many developing countries, especially in China and India;
- Technological progress, especially in the ICT sector and transportation, which has substantially decreased the costs of trade, e.g. fees for maritime, land and air transportation, telephone and satellite calls have been reduced by 21%, 30%, 95% and 88%, respectively;
- Extension of international trade to include product categories which could not be traded so far.

Globalisation may lead to the creation of new macroeconomic relationships to replace the ones we know from traditional economics textbooks. The majority of economists, politicians and investors may still not quite understand the ‘seismic changes’ taking place in the economy (Roach 2005). However, if we are really witnessing ‘seismic changes’ in the economy, they may be worth looking at so as to reflect on their meaning.

Globalisation and its importance for the economy may be looked at from many points of view. Today, I would like to propose an analysis from the central bank perspective – taking account of its objectives, its ability to influence the economy and the set of instruments that a central bank has at its disposal. At the beginning, let us consider what channels there are through which globalisation may have an impact on monetary policy and the central bank.

Firstly, globalisation – through shaping real economic processes abroad, its impact on the global business cycle and prices of raw materials in the global markets – influences the external environment of the national economy, which is monitored by the central bank and where the bank operates. Today, a central bank in a small open economy which would pay no attention to the developments in the external environment of this economy and concentrate only on the situation in the national economy, is bound to fail.

Secondly, globalisation changes the wage and price setting mechanisms within the national economy that the domestic inflation depends on. Globalisation (the increasingly greater openness of economies) – through a growing share of countries with low manufacturing costs in the global output – increases the pressure on margins and wages, and decreases the inflation as a result of it. At the same time, it increases the prices of raw materials, and thus contributes – at least in the short term – to the increase of inflation.

Thirdly, increased international migration of the labour force changes the situation in local labour markets, since the outflow of the labour force increases the wage pressure, while the labour force inflow decreases it.

Fourthly, globalisation changes the functioning of the financial markets and increases the uncertainty as to the impact of the central bank decisions on these markets and on macroeconomic variables.

Fifthly, globalisation influences the way the central bank perceives the economic environment and the monetary strategy adopted by the bank. A fast transfer of the economic know-how (transfer of economic knowledge and analytical methods) changes the method used by economists of the central bank in their analyses of the economy, as well as the manner monetary policy decisions are taken.

And **sixthly**, globalisation increases the risk of ‘speculation bubbles’ in the assets markets.

Let us have a detailed look at the channels of impact of globalisation on the monetary policy one by one.

Re. 1

A growing share of the international trade in the global output and increasing international capital flows create a situation where the growth dynamics of a national economy increasingly depends on the development of the global economy. An illustration of the impact of globalisation on the world economic prospects should refer to an issue most frequently discussed in the macroeconomic policy today, i.e. the so-called global imbalances.

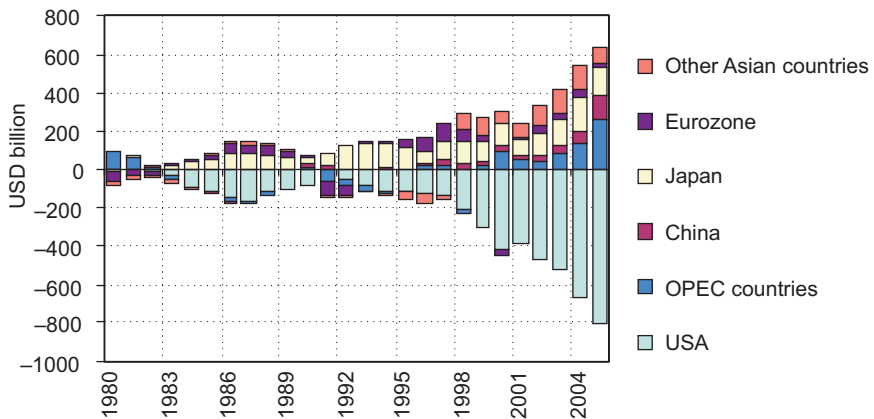


Fig. 1. Current turnover deficit and geographical structure of capital inflow financing the deficit, 1980–2005

Source: IMF, World Economic Outlook.

The current account deficit of the United States was gradually growing over the past years to exceed USD 800 billion last year, i.e. 6.5% of the United States' GDP. This deficit, which indicates import of savings from the rest of the world

to the United States, is financed by central banks from Asian countries, e.g. China, and by oil-exporting countries. The available forecasts show that the deficit will continue to deepen. At present, a heated debate is underway to establish whether it is a stable situation which simply reflects the new rules of the game in the global economy³ or whether this tendency will have to stop and reverse sooner or later, which may result in a significant increase of long term interest rates in the United States, a strong depreciation of the dollar and a serious slowdown in the global economic growth. The majority of empirical and theoretical studies indicate a growing probability of the latter scenario, especially if no proper steps are taken in many countries. These steps include the necessity to accelerate the potential GDP growth in the European Union and Japan through reforms of the labour market and product market, increase of savings in the United States through reduction of the budget deficit, and reforms of the financial sector in China and the resulting gradual floating of the renminbi exchange rate.

The central bank has to take account of possible scenarios of the developments in the world economy and potential adjustments of global imbalances, since the prospects of the national economy significantly depend on them, and so the implemented monetary policy. Additionally, as the institution managing foreign exchange reserves, the central bank has to track changes of the situation in the global financial market, since the changes and investment decisions of the central bank have an impact on the return on foreign exchange reserves.

Re. 2 and 3

Globalisation tends to change wage and price setting mechanisms in the national economy. It results from the increased international competition and a growing role of outsourcing and offshoring. Offshoring means relocation of production, services or orders abroad, however, it may be arranged within the same company or another company. Outsourcing means abandoning production or services within a given company and purchasing these goods or services from another one which may be located in the same or another country.

Earlier, the major part of the production and service chain used to be located in a given country, which meant that from the point of view of monetary policy the domestic demand was of particular importance, and specifically the volume of output in relation to its potential level, i.e. the so-called GDP gap, also often called the output gap. However, the impact of the global economy on inflation was observed mainly as a result of changes in the terms of trade, i.e. the relation between export and import prices, influenced, among others, by prices of raw materials and changes in the external demand. At present, the role of the domestic output gap in explaining inflation reasons has decreased due to a number of factors, including the globalisation of the production process, which was dem-

³ This thesis was advanced in the frequently quoted paper: Dooley et al. 2003.

onstrated by the research carried out by the Bank for International Settlements (BIS 2005). A model adopted by the NBP to forecast inflation produces similar results – the role of the output gap as a factor determining inflation is significantly smaller than before.

Traditional textbooks on macroeconomics treat inflation as a local phenomenon, i.e. depending mainly on domestic factors (such as the domestic output gap and inflation expectations). Today, inflation is becoming increasingly less local, and to a greater extent – results from global factors, i.e. relationships of the global demand to the global supply. A research which analysed the inflation trend in 22 OECD countries between 1960 and 2003, demonstrated that 70% of its volatility may be explained by a common factor (Ciccarelli 2005). This global common factor explains not only changes in the inflation trend (the growing inflation between 1960 and 1980, followed by a decrease), but also its fluctuation during a business cycle. It has been also demonstrated that if domestic inflation deviates from the ‘global’ inflation it tends to return to the global trend. Consequently, modelling and forecasting the domestic inflation can be significantly improved if the ‘global inflation’ is taken into account.

Table 1. Share of respective regions in the world trade

Total %	1990	1995	2002
Developed countries	72	67	63
United States	12	12	11
EU-15	44	39	38
Developing countries	28	33	37
Asia	13	19	20

Source: IMF Direction of Trade Statistics.

The fast globalisation process is inherently connected with offshoring and outsourcing, the scale of which is growing. Unfortunately, there is not much reliable data which would facilitate the assessment of the scale of this phenomenon. Up to now, only estimations and results of partial studies related to this issue are available, and only for selected countries. However, data relating to global trade in goods and services and foreign investments proves the intensification of this phenomenon. In the last 15 years, the shares of individual regions in the global trade significantly changed; the considerable decrease of the EU share in trade is accompanied by an increase of the share of developing countries, including the Asian countries. In global terms, foreign trade as a percentage of GDP increased from the average 19% of GDP between 1980 and 1989 to 25% between 2000 and 2004.

Global capital flows continue to grow even more dynamically. The share of global foreign direct investments (FDIs) in the global GDP increased from 8% in 1989 to 22.1% in 2003, and foreign assets as a percentage of GDP increased from 62.6% GDP to 186.1% GDP, respectively.

Table 2. Offshoring in the European Union countries

Country with jobs relocated to:	Number of jobs lost in the EU in 2002–2003 due to relocation	Number of jobs lost in the EU in January – November 2005 due to relocation
China	3,361	3,077
India	9,458	5,470
Asian countries	3,786	3,271
Czech Republic	780	3,890
Hungary	1,100	772
Poland	120	2,676
Total	33,151	31,942

Source: European Restructuring Monitor⁴, author's calculations.

As we can see, the role of trade and financial relationships between enterprises in various countries has significantly increased in recent years. In the past, in response to growing fuel prices or increased costs of living, trade unions used to demand wage increases from employers, triggering the so-called second-round effects, and central banks had to increase interest rates to curb inflation. Today, trade unions have to consider a threat that in the case of wage increases, production can be relocated to countries offering lower manufacturing costs.

In the European Union countries, between 2002 and November 2005, 202 cases of company restructuring connected with offshoring were announced, which resulted in the reduction of almost 100,000 jobs. In that period, offshoring was quoted as the cause of nearly 6% of all cases of publicly announced company restructuring processes in the European Union. So far, the scale of the phenomenon has not been very large, but offshoring as a strategy of increasing company competitiveness is becoming more and more common and covers not only the production of goods but, increasingly, also services.

Numerous analyses indicate that the offshoring process will tend to intensify and affect services to a larger degree (McKinsey... 2005b). For instance, between 1980 and 2002, the average annual growth rate dynamics of trade in goods and services was 6.9%. According to the projections of the McKinsey Global Institute, offshoring of services to countries with low manufacturing costs will continue to increase between 2003 and 2008 by 30% annually. In 2003, the value of global trade in services amounted to ca. USD 1.7 billion, of which only 3% resulted from offshoring to low manufacturing cost countries. This value is expected to reach ca. USD 2.4 trillion in 2008, of which 10% will represent offshoring of business and ICT processes to low manufacturing cost countries. To compare, the travel sector represents ca. 30% of trade in services in the OECD data, while transportation – 20%. Based upon an analysis of eight

⁴ The European Restructuring Monitor is a service of the European Commission. It collects information on all publicly announced cases of company restructuring in the European Union countries, Bulgaria and Romania, if they meet the following conditions: staff reduction by at least 100 persons annually, the company employs at least 250 persons, and the reduction covers at least 10% of the staff or if at least 100 jobs are to be created as a result of the restructuring.

representative sectors, the McKinsey Global Institute estimated that in 2003, 18.3 million jobs in services could have been relocated (it mainly refers to sectors such as IT – 2.8 million, banking – 3.3 million, insurance – 2.3 million, healthcare – 4.6 million, retail trade – 4.3 million). If we extrapolate the results to the global economy, it can be estimated that in 2008 ca. 160 million jobs in services, i.e. 11% of the global employment in the sector estimated at 1.46 billion jobs, may in theory be located at a distance from the client.

From the point of view of monetary policy, it is important to properly understand the impact of offshoring on the functioning of local labour markets which, as a result of an increasing openness of economies, have merged into one global labour market. Before the collapse of socialism in Europe, the global labour market comprised about one billion people. At present, i.e. after the inclusion of China and India into the global economy, the labour market employs about four billion people. This results in a situation where jobs are being moved to new, more attractive locations and employees tend to follow in search for better-paid jobs. The biggest migration known as the ‘great migration’ is taking place in China (HSBC 2005). It is estimated that in the coming ten years approximately 200 million Chinese will move from villages to cities and find employment in the industry, including mainly export-oriented sectors and services. This means that during the next decade, every month on average 1 to 2 million citizens of this country will leave unproductive and badly-paid jobs in agriculture and find better-paid and more productive jobs in other sectors. Monetary policy has to take account of the impact this process will have on the economy of China and on the economies of other countries.

Table 3. Number of work permits in the UK, Ireland and Sweden issued to citizens of new Member States in the post-accession period (in thousand)

	UK*	Ireland**	Sweden***	Total	As % of labour force****
Lithuania	44.72	26.37	0.37	71.46	4.4
Latvia	23.03	12.94	0.16	36.14	3.2
Estonia	4.68	3.39	0.36	8.43	1.3
Poland	204.90	70.14	2.16	277.20	1.6
Czech Republic	20.01	6.39	0.07	26.47	0.5
Hungary	10.35	3.83	0.20	14.37	0.3
Slovakia	36.36	10.93	0.09	47.38	1.8

* Source: Accession Monitoring Reports, <http://www.ind.homeoffice.gov.uk>. The data includes the period between May 2004 and December 2005, NBP calculations.

** Source: *Skills needed in the Irish economy: The role of migration, A submission by the Expert Group on Future Skills Needs and Forfás to the Minister for Enterprise, Trade & Employment*, <http://www.skillsireland.ie>. The data covers the period between May 2004 and August 2005.

*** Source: *Migracje specjalistów wysokiej klasy w kontekście członkostwa Polski w Unii Europejskiej (Migrations of highly professional experts in the context of Poland's EU membership)*, Ośrodek Badań nad Migracjami UW (Migration Research Centre of Warsaw University). The data covers the period between May 2004 and December 2004.

**** Labour force – population aged 15+ in 1Q 2004.

Unlike in trade and capital, the movement of people in the European Union countries was stable. The annual net migration to EU-15 remained at the level below 5 persons per 1,000 inhabitants over the past 40 years. Approximately 9% of the EU population were born in other countries, while in the United States this population accounted for 12% and in Canada and Australia – for ca. 20%. After the European Union enlargement, where ten new countries joined the EU, the migration process has intensified also in our part of the world, which is illustrated in Table 3 below. In some cases, a significant part of the domestic labour force found employment in other countries. It is estimated that e.g. 5% of Lithuanians took up employment in the countries which opened their labour markets to the EU new members after 1 May 2004.

One can draw the conclusion that the opening of economies with low manufacturing costs, especially China, and the related growing international competition in the goods and services market, tend to change the methods of price setting by enterprises and determination of wages in the labour market. To an increasing degree, enterprises are becoming price-takers, therefore, even if manufacturing costs are growing, they are not able to increase their prices and shift the cost increase to the client. A similar trend relates to wages which are determined in the more and more global labour market. A research concerning the processing industry in the EU countries (1988–2000) has indicated that a growing openness of the sector (increase of imports) resulted in a decrease of prices by 2.3%, a productivity increase by 11% and a decrease of margins by 1.6%. All things considered, this may provide an explanation of the inflation decrease over that period by 0.14% in annual terms (Chen et al. 2004). Looking at the price processes from the point of view of microeconomics, significant structural changes resulting in lower inflation can be observed.

It is also indicated that the dynamic development of the Chinese economy, consuming more and more raw materials, is leading to a considerable increase of the raw materials prices and may cause a growth of inflation. However, the possibility of shifting higher costs of raw materials (e.g. oil) to end-user prices is limited due to the increased competition pressure (Melick, Galati 2006). Additionally, in the light of fierce competition in the labour market and the changes discussed above, a risk of growing wage demands and the so-called second-round effects is limited.

Re. 4

The past three decades saw an enormous internationalisation of the financial sector. Financial services which used to be provided in the framework of strictly regulated, domestic and separate financial systems, today are offered in an even more open, competitive and global system. One of the indicators of globalisation in the financial services sector is a growing volume of cross-border capital flows. Cross-border transactions in the bond and shares segments are now exceeding USD 90 trillion (thousand billion) annually, i.e. almost USD 250 billion

on a daily basis (Hannoun 2006). Additionally, the size of financial markets and their importance for the economy is also increasing. The total value of the world financial assets amounts to USD 118 trillion now, while back in 1980 it was only USD 12 trillion (McKinsey... 2005a). Increasing the volume of financial assets is progressing faster than the growth of output and has now reached a threefold value of the global GDP, while in 1980 it was more or less of the same value as the global output.

Furthermore, the segment of private debt instruments is the fastest growing segment of the financial market. Moreover, international issues of these securities grow faster than domestic ones which means that companies increasingly tend to finance their activities abroad. Additionally, a gradual decrease of importance of the banking sector intermediation accompanied by a simultaneous increase of the market intermediation is an additional important feature of the financial market development⁵. Consequently, the channels of impact of the central bank on the economy are evolving. In the past, the bank credit intermediation was treated as more important while now it is losing in importance.

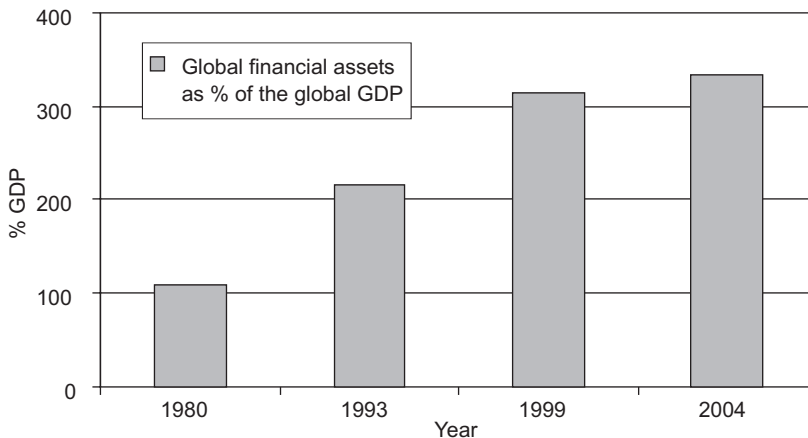


Fig. 2. Volume of the global financial market in relation to the GDP

Source: McKinsey Global Institute Global Financial Stock Database

Up to the recent period, an investment rate in the economy depended to a large extent on the domestic savings rate, which in fact was in conflict with one of the basic assumptions of some economic models concerning a full integration of capital markets. The so-called home bias was observable in the economy, i.e. a stronger inclination of investors to invest in domestic assets rather than in foreign ones⁶. The latest research (Feldstein 2005) suggests, however, that

⁵ In 1980, bank deposits accounted for 45% of the total financial assets, while now their share decreased to 30% (McKinsey... 2005a).

⁶ In international economics, it is referred to as the Feldstein-Horioka puzzle, after the names of two economists who were the first ones to empirically prove its existence (Feldstein 2005).

home bias could have significantly decreased over the past few years, at least in the OECD countries. The decrease may be attributed to the growth of cross-border capital flows. What importance does it have for the monetary policy? If domestic and foreign financial assets are increasingly treated as perfect substitutes, domestic interest rates, particularly medium and long term ones, are determined in the global financial market, and consequently, the influence of individual central banks on them will diminish. This phenomenon can already be observed in the United States. Despite the fact that the base interest rate of the central bank was increased from the level of 1.00% in 2004 to the current 4.75% (i.e. by 3.75 percentage points), the level of long term rates which are more important from the point of view of the aggregated demand, remained more or less the same as before.⁷ The resulting effect of tightening the monetary policy on the aggregated demand was significantly limited due to the lack of reaction from long term interest rates.

Nobody in the world of global financial markets is surprised by the fact that each time a meeting of the Federal Open Market Committee (FOMC⁸) of the US Federal Reserve takes place, the entire world of finance is looking at its Chairman, since decisions taken by FOMC in Washington are important for investors in New York and London, Tokyo, Rio de Janeiro, Shanghai or even Warsaw. They have an impact not only on the US economy but also, through the financial markets, on the entire global economy. An unexpected growth of interest rates in the United States may create a sudden outflow of capital from the emerging markets, and consequently weaken the currencies of these countries and increase their bond yields.

Some economists (Hannoun 2006) claim that an increased discipline which investors force on the governments and central banks in individual countries is an important aspect of the growing internationalisation of financial markets. According to this hypothesis, the financial markets, through their continuous valuation of securities, reward good economic policies and punish bad. Empirical knowledge, however, does not offer explicit evidence supporting the thesis on fiscal policy discipline. It may be claimed, however, that financial globalisation could have contributed to the central banks discipline and to 'forcing' them to conduct their monetary policies oriented to maintaining low inflation (Tytell, Wei 2004).

At the same time, a significant risk connected with the financial markets integration is the increasing possibility to transfer economic problems of one country to other countries (the contamination effect). Between 1997 and 1998, the countries of South East Asia went through this experience and saw a sudden outflow of capital, leading economy after economy to a financial crisis that the monetary and exchange rate policies had not been able to prevent.

⁷ It is even called Greenspan's puzzle, after the name of the former Chairman of the US Federal Reserve.

⁸ FOMC (Federal Open Market Committee): a body taking decisions on interest rates in the Federal Reserve Board.

Re. 5

One of the significant dimensions of globalisation is a fast dissemination of knowledge, technology and know-how. The flow of know-how refers also to the public sector, including the central bank. One of the features of contemporary central banking is a gradual homogenisation of strategies applied in the monetary policy. Since 1990, when for the first time the central bank of New Zealand started to implement the strategy of direct inflation targeting (DIT), over 20 central banks have followed in its footsteps and adopted the strategy. In effect, today the DIT strategy (used by the NBP since 1998) is prevalent in the monetary policy, since it is used by the majority of central banks in developed countries⁹ and more and more central banks in developing countries (e.g. Turkey, the Philippines, Ghana, Romania, Armenia). The spreading of the DIT strategy proves that central banks adopt a ‘technology’ of ensuring a low and stable inflation from one another.

The dissemination of the DIT strategy was accompanied by a decrease of the average inflation rate, particularly in developing countries which were reducing inflation from a high level. This may be an indicator demonstrating that the dissemination of the DIT strategy was one of the factors causing disinflation. Although the issue of the DIT strategy impact on inflation reduction is disputable (see for example: Ball, Sheridan 2005), there is empirical evidence that the implementation of the strategy can improve macroeconomic results (decreased costs of stabilising inflation, lower impact of price shocks and output shocks on inflation, and therefore, limited impact of the past inflation on the current inflation, which reduces its persistence) – see Corbo et al. 2000. Empirical studies also suggest that the DIT strategy facilitates the stabilisation of long term inflation expectations (Gürkaynak et al. 2006a, 2006b).

An additional outcome of dissemination of the DIT strategy is the development of communication standards in the monetary policy (announcements of the decision-making bodies, inflation reports, published inflation projections), which facilitate communication of the central bank with its environment (the financial market and the public opinion). It may be presumed that the standards facilitate easier interpretation of decisions taken by the central bank by foreign investors, which should, in a situation of immense cross-border capital flows, increase the effectiveness of monetary policy in stabilising inflation.

Re. 6

As mentioned before, the globalisation process is a serious challenge for central banks. Following the increase of labour resources relative to capital re-

⁹ The direct inflation target policy is used in the majority of developed countries outside the Eurozone and the United States. However, in the case of the Eurozone, one can talk about a *de facto* DIT strategy, and in the case of the United States – the present Fed Chairman, Ben Bernanke, is an enthusiastic supporter of DIT, and therefore its implementation in the near future cannot be ruled out.

sources, the labour costs and the costs of manufacturing of many goods and services decreased. After the deduction of fuel prices, increased also due to globalisation process effects, inflation in many countries remains at a very low level, while a strong growth of the global supply of work limits the possibility of the occurrence of the second-round effects, i.e. increase of wages in response to the growth of the current inflation. Moreover, the global surplus of savings over investments fosters the investment of capital in various asset markets, causing an increase of asset prices. Examples include increases in stock exchange indices, bond prices or prices of the real estate markets in Anglo-Saxon countries and e.g. in Spain. The question how the monetary policy should be managed in such conditions logically follows, and in particular whether it should react to an increase in asset prices, despite the fact that the inflation of consumer goods and service prices remains low or very low. Another very important question refers to the level of central bank rates, when long term rates remain at low levels due to globalisation. There is a very serious debate concerning this issue, both among executives of central banks¹⁰ and theoreticians of monetary policy (e.g. Roubini 2006; Posen 2006).

In his address, Ben Bernanke, Chairman of the Federal Reserve Board (Bernanke 2006), presented possible diagnoses concerning the sources of low interest rates in the bond market despite 14 increases in the central bank reference rate. There are at least two explanations of the situation. If long-term rates remain unchanged and short-term ones increase, it means that either the markets pessimistically assess the economic growth prospects or the risk premium relating to fixed term interest rates is decreasing; in this case, it can be the inflation risk premium or the real interest rate volatility premium. Another explanation is the very effect of the global imbalances, for example the result of large purchases of government bonds by the central banks of Asia and oil-exporting countries. Depending on which of the hypotheses is true, the implications for the monetary policy will be different. If long term rates increase due to weak economic growth prospects, the current short term rates should also be decreased to counteract such phenomena as possible deflation. However, if specific factors connected with globalisation or reduction of the risk premium are the reason why long term interest rates remain at a low level, the short term rate should be higher to achieve an appropriate restrictiveness of the monetary policy resulting from the entire yield curve. It is difficult to evaluate which hypothesis is correct, and therefore central banks, like sailors in the old days, should apply two iron-clad rules: first, they should frequently determine their position, and second, use as many navigation points as possible. This means that, especially in a situation where new phenomena or major structural changes occur, monetary policy must not be described by means of few simple indicators

¹⁰ A part of the conference organised by the European Central Bank in connection with Otmar Issing's leaving the position of the chief economist and a member of the Governing Council on 16–17 March 2006 was devoted to this issue.

such as the inflation rate and output gap in Taylor's rule. Monetary policy decisions should rather be a product of a comprehensive analysis of a large number of indicators and data.

Another Governor of the Federal Reserve, Donald Kohn (Kohn 2006), devoted his entire recent address to an analysis of when and under what conditions central banks should react to rapid changes of asset prices. According to Kohn, there are two possible approaches. In the first one, known as the conventional monetary policy, the central bank concentrates on the stabilisation of inflation, treats changes in asset prices as an exogenous process and does not try to influence asset prices in any way. The second option which Kohn described as the extra action policy allows for a deviation of the current inflation from a level determined as stable in return for an improvement of prospects for achieving price stabilisation in the future. However, the extra action policy does not translate into bursting 'speculation bubbles' by central banks but means rather 'purchasing' additional insurance against possible negative shocks which may come in the future. According to Kohn, the extra action policy can be conducted very rarely and only when three conditions are met:

- The central bank has to be able to identify bubbles in the asset markets in a timely manner and with a high certainty related to the correctness of the analysis conclusions;
- There should be a high probability that a slight tightening of the monetary policy will be able to stop the speculation activity in the given asset market;
- The expected improvement of the future economic situation resulting from a smaller speculation bubble has to be significant and higher than the costs incurred by the economy as a result of implementation of the extra action policy.

To sum this idea up, Kohn expressed his scepticism whether meeting all the three conditions in a satisfactory manner is possible. Nonetheless, he did not preclude that in the future the understanding of economic processes will improve enough to enable the extra action policy in justified cases. Many comments after the presentation indicated that the supervision policy is a much better method of reacting to 'bubbles' in the asset market and many experts stressed that supervision over financial markets should be definitely independent of politicians because undertaking activities to reduce the growing speed of speculation bubbles may be necessary when it does not meet expectations of politicians due to the election cycle.

This article presents the most important aspects of the debate devoted to conducting monetary policy in the global economy. The debate is still underway, and many questions raised above can not be explicitly answered yet. There is one certain aspect, however, that monetary policy in the global economy of the 21st century will substantially differ from monetary policy pursued in the 20th century.

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