

# “Stability Oriented Euro-Central Banking: Stress the Money Link”

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## **STABILITY ORIENTED EURO-CENTRAL BANKING: STRESS THE MONEY LINK**

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### **Abstract**

Stability oriented Euro-central banking means to focus on an appropriate development of consumer prices referring to the Euro Area in a single monetary policy approach and considering but not targeting asset prices or exchange rates. For the Euro Area recent empirical research confirmed that medium-term to longer-term movements in monetary growth and inflation have been highly correlated.

Modern central banking requires a comprehensive approach with first, a privileged position of the money link to identify medium-term to long-term risks for price stability and to support pre-emptive actions of monetary policy. Second, it also requires an additional economic analysis to reveal more short-term risks for price stability. The two pillar strategy of the ECB comprises these two aspects by using an analysis of economic dynamics and shocks as one pillar and the analysis of monetary trends as second pillar. Third, and this is the lesson from the discussion about monetary targeting versus inflation targeting, modern central banking has to integrate and emphasize methods of inflation forecast.

But the conduct of monetary policy should not be based too mechanically on forecasts because such a reaction-rule can not describe the policy action to be taken in every situation in an ever changing complex economy and therefore use of it as an automatic prescription would not contribute to credibility.

**Key words:** monetary policy, asset prices, monetary targeting, inflation targeting, exchange rate targeting.

### **1. Price stability as high ranking target for the Euro**

In a lecture delivered at Cambridge University in November 1992 on the value of monetary stability in the world of today Hans Tietmeyer, former president of the Deutsche Bundesbank, referred to Nikolaus Kopernikus who recorded an interesting experience as early as 1529: "He had observed that in countries with good money the arts and business flourish, and there is wealth everywhere, while laziness, idleness and indifference prevail in countries where bad money is in circulation" (Tietmeyer, 1996). There is good reason to believe that this statement, nearly five hundred years later still holds true.

In literature the following positive economic consequences of price stability for economic welfare are broadly accepted and empirically proved (Motley, 2002 and Rodriguez-Palanzuela, Camba-Mendez, Garcia, 2003):

- ◆ improving the transparency of relative prices and thereby helping the market via price functions – especially the information function – to guide resources to where they can be used most productively and efficiently;
- ◆ reducing inflation risk premium in interest rates, uncertainty of economic prospects and thereby increasing the incentives for firms to invest;
- ◆ avoiding unnecessary hedging activities for example by stockpiling real goods since they may retain their value better in inflationary circumstances than financial assets which is not an efficient investment decision and therefore hinders economic growth;
- ◆ supporting the acceptance of currency, increasing the benefits of holding cash or overnight deposits and thereby avoiding transaction costs of transforming  $M_1$  currency to near money assets, as for example time deposits or debt securities vice versa.

In addition it is very important to recognize, that price stability is not only a high ranking economic target but also a social target in developed market economies. Such social but basically market oriented economies try to establish social balance and effective social protection of the members of society. The countries of the European Union (EU) belong more or less to this type of economic systems. To achieve social targets, these societies rely not only on welfare state mechanisms of social security but also – according to the principle of subsidiarity – on self precaution and self protection of the people.

Inflationary processes endanger the mentioned essential principles of socially balanced economies (Schönwitz, 2004):

- ◆ The money for state or privately financed social protection does not come out of the blue. Only efficiently organized and working economies can guarantee sustainable social security mechanisms. Therefore the contribution to economic efficiency and growth by price stability is a social benefit.

- ◆ Through inflationary processes the buying power of money is eroded and as a consequence the motivation for self precaution is endangered. In a long-term life cycle oriented view even moderate inflation rates reduce considerably the value of money saved e.g. for old age purposes. For example in the half century of existence of the Deutsche Mark in Germany this as “stable” acknowledged currency lost about two thirds of its buying power.

- ◆ Inflation concerns those members of society first who need in a social market economy state support at first: the so called “minor saver” who has only his savings account with not high enough interest rates to compensate inflationary effects, who has not the wealth for investing in real goods and who cannot afford professional advisers for portfolio optimizing. In this context inflationary processes cause social injustice.

- ◆ Inflation triggers off distribution conflicts plus social imbalance and not social balance of society because groups with influence, with power on the markets, try to hold their share by demanding higher wages or higher prices in case of inflationary expectations. In economic textbooks such dynamic spiral effects are discussed as supply side reasons of inflation (Issing, 2003).

Considering all these economic and social arguments it is clearly justified to judge price stability as a very high ranking not only economic but also social target for politicians as well as central bankers which is connected very closely to other high ranking targets such as economic growth and employment. It is absolutely not only a “technical” target.

## 2. Definition of price stability and the problem of asset prices

The European Central Bank (ECB) has to conduct a so called “single” monetary policy which means, that the achievement of price stability refers to the Euro Area comprising the member states of the EU that have adopted the Euro and not to specific countries of the area.

Therefore the ECB in its definition of price stability uses the Harmonized Index of Consumer Prices (HICP) for the Euro Area and sets the target that “... it aims to maintain inflation rates below but close to 2% over the medium-term” (ECB, 2004c). The ECB’s definition has two dimensions: time and quantity. Medium-term considers not only the time-horizon over which the ECB will try to achieve or re-establish price stability but also that single fluctuations of prices are not necessarily inflation because inflation is always a lasting event. This time horizon is not exactly numerically fixed because the range of inflation depends on the economic circumstances, the type of shocks disturbing price stability and the possibility of second round effects in the wake of an initial inflationary impulse. Anyway: very often “medium-term” means up to two years. In context with the quantitative dimension Paul de Grauwe (2000) mentioned that Milton Friedman formulated in the 1950s the view that the optimal rate of inflation is zero because of maximizing the total utility of holding money by avoiding decreases of buying power. From a pure theoretical point of view this is true. But in practice of monetary policy – not only of the ECB – thinking about an appropriate quantitative definition, the possibility of deflationary developments, price movements and measurement problems must be considered.

Therefore “close to 2%” means that there is “...a sufficient safety margin to guard against the risks of deflation” (ECB, 2003). Such a safety margin is especially important for countries with inflation rates below the average of the Euro Area, as in the last years for example Germany. In addition the ECB is realistic and willing to tolerate rates up to “close to 2%” because – as empirical research shows – non-inflationary price increases are always possible: quality improvements for example may justify higher prices, shifts of demand and supply on markets can cause “breathing” of relative prices plus inflation differentials within the Euro Area and measurement errors may be responsible for an increase of the HICP. A restrictive monetary policy to stop such structural price increases could easily lead to a too tight money supply in relation to possible growth.

As far as indicators are specified the ECB and other central banks concentrate on consumer prices. This means that asset prices such as house or financial asset prices are not focus of preemptive actions of monetary policy. The question whether central banks should declare the stabilisation of asset prices as target has recently been discussed lively in context with so called bubbles which could threaten financial stability (Meltzer, 2003). In any case control of monetary expansion is an important contribution to prevent asset price bubbles. For example studies confirm a relation between growth of liquidity respectively loans and stock valuations (ECB, 2005). Therefore a stability oriented monetary policy contributes to an “orderly” development of asset valuations.

Of course a central bank has to consider the impact of asset prices on demand, supply and other prices and therefore to analyse their development – and might even signal concerns about unexpected asset price developments. Asset market prices can have consequences for consumption demand, investments and credit conditions. E.g. when stock prices increase the economic actors become wealthier: “Higher wealth ... encourages people to spend more because they feel richer” (Calvery, 2003). This may endanger price stability. Or: A bursting of a bubble will lead to a devaluation in the net worth of assets, thereby influence the credibility of borrowers and may cause a tightening in credit conditions as reaction of financial intermediaries (credit crunch). This can endanger the effectiveness of monetary policy and financial market stability. An additional aspect for the importance of asset price developments for central banks is their suitability as source of information about inflation expectations. For example the yield spread between conventional bonds and inflation-linked bonds is an indicator of inflation expectations for the Euro Area, because it provides information of the level of expected inflation at which “...an investor would be indifferent as to which of the two types of bond to hold” (ECB, 2004a).

The problem for central banks in context with asset price stabilisation as target results from the uncertainty with regard to identifying speculative bubbles and an assessment of the fundamental value of asset prices and, too, from doubts that central banks can use their monetary tools to efficiently avoid bubbles. For these reasons, at least to date, “... central banks around the world agree that they must not target asset prices” (Issing, 2004b). But asset prices and their influence on price and financial market stability will remain a priority task on the research agenda of central banks (Bean, 2004).

The ECB’s approach is qualified for progress in such research because it includes in a two pillar approach not only a monetary analysis but also an economic analysis giving scope for the exploration of asset price developments and their impact on price stability (Remsperger, Domanski, 2003). In this context the ECB discussed a cautious policy of “leaning against the wind” of an incoming bubble as option: “The central bank would adopt a somewhat tighter policy stance in the face of an inflationary asset market than it would otherwise allow if confronted with a similar macroeconomic outlook under more normal market conditions.” But in its conclusion the ECB warns: “...such an approach might be perceived as dictating a rather mechanistic reaction to asset price developments ... a prudent policy response to a suspected asset price misalignment is unlikely to take the form of a simple reaction rule expanded by an asset price index” (ECB, 2005).

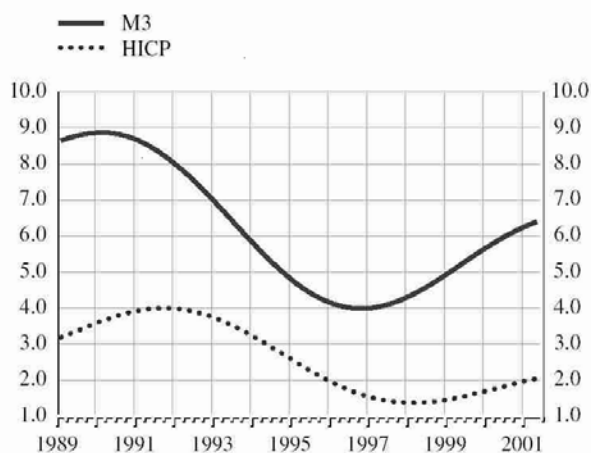
So there is continuing scepticism in context with the handling of asset prices, which is also a matter of feasibility of targets as an essential precondition for reputation and credibility of a central bank.

### 3. The money link: some new empirical evidence

In its concept of monetary policy the ECB uses a reference value for monetary growth of  $M_3$ . The broad money stock definition  $M_3$  includes not only currency in circulation at non banks but also deposits, repurchase agreements, money market fund shares and debt securities held by the money holding sector in the Euro Area. It represents the buying power of non banks.

In the last years there was some discussion about the link between money stock and prices. Recent empirical research confirmed this link in a longer term view very impressively. Manfred J.M. Neumann and Claus Greiber (2004) did this for the Euro Area from the 80's until 2004 and Walter G. Dewald (2003) in a long-term cross-country study for 13 industrial nations from 1880 to 2001. Dewald concludes that cross-country average wide money stock growth trends "... closely correspond with cross-country average inflation and nominal GDP growth trends in both amplitude and frequency ... Such evidence tends to confirm Milton Friedman's dictum, that inflation is always and everywhere a monetary phenomenon." Referring to a diagram showing these trends he states: "The aphorism that 'a picture is worth a 1000 words' may understate the message of this chart." The same is true for the results of Neumann and Greiber. They state that money exhibits a clear and stable relation with inflation and therefore can serve as an important indicator for assessing price developments in the Euro Area.

A similar study of the ECB on its monetary analysis emphasizes the distinction between short-term and longer-term influences and comes to the conclusion "... that medium to longer-term movements in monetary growth and inflation have been highly correlated ..." (ECB, 2004b) in the Euro Area (Figure 1). But it provides evidence that there is no close relationship between monetary developments and inflation in the short run. Therefore monetary analysis in the Euro Area is valid for the identification of medium- to longer-term risks for price stability. Figure 1 also shows that there is a difference between the highest point of the  $M_3$ -curve and the HICP-curve of about 1.5 years. The same is true for the lowest points of both curves. Because of such time-lags between money stock movements and price movements an increase of the money stock of today is the inflation potential of the medium-term future if the components of  $M_3$  represent the buying power of non banks properly and if there is no portfolio shift from longer-term financial assets towards near money assets of  $M_3$  because of for example uncertain expectations or very low interest rates.



The longer-term components of inflation and  $M_3$  growth (defined as cycles with length of about 8 years) were derived as residual using the difference between the observed series and the sum of the cyclical and the short-term components (band-pass filter).

Fig. 1. Development of longer-term components of inflation and money stock  $M_3$  in the Euro Area (in percent)

Even in a global view – so the results of another study of the ECB "... overall there is a positive correlation between global inflation and global monetary growth since 1986 ..." (ECB, 2004d) –

the relation becoming less clear from mid 1995 onwards. But it must be considered, that uncertainties in the world, especially since September 11<sup>th</sup> 2001 attacks, caused disturbances in the relation of some macroeconomic variables, and hence a – maybe transitory – higher liquidity preference.

All these studies reveal, that a tribute to Friedman and his money link based view of inflation is justified in context with deriving an appropriate policy strategy of monetary targets or reference values.

#### **4. Monetary reference values – no contradiction to inflation targets**

Therefore the discussion about “monetary targeting” versus “inflation targeting” sometimes seems to be a bit exaggerated and the opponents now and then stress differences which are not so remarkable – especially when the reality of monetary policy decision making is considered. If inflation targeting means to keep inflation stable over the medium-term, so that the actual inflation rate moves at the level of the inflation target in former time even the Deutsche Bundesbank, following explicitly monetary targeting, had inflation targets by using an “unavoidable inflation rate” as one component for the derivation of its monetary target band width. And the in one pillar of its concept still monetary oriented ECB, with its definition of price stability “below 2%, but in the medium-term close to 2%”, has an inflation target, too. The difference between the two views is the degree of dependence on inflation forecasts.

Otmar Issing (2004a), Chief Economist of the ECB, made this quite clear: “We have a quantitative definition for our primary objective ... so we are in that sense an inflation targeter. If you think inflation targeting means a strategy where you aim for low inflation, then we are an inflation targeter! The real point at issue is that according to a different meaning of ‘inflation targeting’, interest rate decisions should be made more or less mechanically on the basis of forecasts. We are certainly not an inflation targeter in that sense.” Considering the complexity of economic developments and the fallibility of forecasts a non-model based analysis is also required, which “... in some sense suggests that central banks cannot be simply replaced by computers running model simulations” (Issing, 2004c) and which illustrates the range of uncertainties around any forecast and informs about the risks of forecast based judgements.

Following Kenneth N. Kuttner (2004) from a theoretical point of view at present no central bank qualifies as a bona fide inflation targeter if the membership in the club is restricted to central banks using a strict mechanistic interpretation of a reaction function including inflation forecasts. And: having some desired numerical rate of inflation, putting emphasis on price stability as principal goal of monetary policy and performing transparency with regard to monetary policy formulation, nearly all major central banks qualify as inflation targeters. Alan Greenspan (2004) comes to a similar conclusion. In his opinion the practice of monetary policy by inflation targeting central banks at present closely resembles those central banks, such as the ECB, that have not chosen to adapt that paradigm until now.

And even for the role of money stock there has to be some similarity between self-proclaimed inflation targeters and other central banks. Thinking about the decision-making behaviour it would be a very big surprise if in an explicitly inflation targeting central bank like the Bank of England the discussion differed much from the discussions inside the ECB Governing Council and money stock growth is not taken into account, as a key variable by the insiders (Neumann, 2003).

Considering this, it is not astonishing that a cross-country study of 20 industrial, moderate-inflation economies promoted by the International Monetary Fund (IMF) argues, that there are on average no “discernible benefits” from self-proclaimed inflation targeting monetary policy in comparison with the performance of other central banks. This is in accordance with an empirical result from 1994 to 2002 for 7 self-proclaimed inflation targeters and 11 other central banks, concluding that “... it is hard to find much difference in inflation performance between inflation targeting and non targeting countries” (Gramlich, 2004).

So it seems to be an acceptable conclusion to reduce the dispute to a discussion on appropriate communication devices of monetary policy and to the question: What is the best recipe for

external communication of the central bank, for communication with the public in order to bring or keep inflation expectations down? The answer to this question might differ from central bank to central bank. Certainly central banking is management of expectations, too. But Greenspan (2004) states, that it is not clear, "... whether the mere announcement that a central bank intends to engage in inflation targeting increases the credibility of the central bank's inclination to maintain price stability and hence, assist in the anchoring of inflation expectations." Yet, recent empirical research indicates some evidence, that adopting a more intermediate focus on the inflation rate as objective supported by forecasts plays a role in anchoring long-run inflation expectations (Levin, Natalucci, Piger, 2004).

Rachel Lomax (2005), Deputy Governor of the Bank of England responsible for monetary policy, mentions a second role of inflation targeting and forecasts in the monetary policy process, which is relevant for the improvement of internal communication: it helps the central bank to set monetary policy by organising, informing and focusing its discussions in the working groups and decision making bodies: "It is hard to say precisely how important forecasts are in driving policy decisions, but there is some evidence that the rethink of key issues during the forecast round has been a source of policy 'surprises'." Or, as Lorenzo Bini Smaghi, Member of the ECB's Executive Board, stated: Forecasts are a basis for the discussion, but not the only one. They are important because they concentrate the analysis.

However, these communication oriented arguments and more reliance on forecasts in central banking are not a contradiction to monetary targets or reference values. To believe that according to Friedman's famous dictum inflation is a monetary phenomenon and acceptance of price stability as dominant objective implies that central banks should not give up target or reference growth rates of money which they believe will over time result in promoting price stability: "... one should always stress the role of money. ... The money link has to be communicated to the public." And – with reference to the discussion about the ECB's concept and the request to abandon the stipulation of publicly announced monetary reference values – "... one shouldn't change concepts or models too quickly as you can damage credibility for nothing" (Neumann, 2003).

In this context two strategic arguments are important: First, a central bank paying attention in public to the money stock may be able to withstand political pressure to conduct an activist monetary policy endangering price stability more easily because the internal decision process and communication with the public emphasizes the (medium-term) consequences of today's monetary policy stance for buying power and thereby for future price stability. This and the following second argument are due to the time-lag between monetary developments and price movements. Second, the existence of a monetary reference value enables the central bank to take pre-emptive actions, when a central bank without such a "pillar" would have no such excuse (Goodhart, 2005).

## **5. No Euro exchange rate targeting and more oral interventions**

In accordance with Article 4 of the EU-treaty the ECB's stance to the development of exchange rates – especially to the USD/EUR exchange rate – is obliged to internal price stability. Therefore the ECB has instruments for flexible actual interventions selling or purchasing foreign exchange (fine tuning). Such stability-oriented interventions are based on foreign reserves held by the ECB and may be conducted in currencies outside the EU or in the framework of the intra EU "Exchange Rate and Intervention Mechanism II (ERM II)". With exception of ERM II as preparation of EU-countries – so called "pre-ins" – to join the Euro Area by allowing exchange rate fluctuations of the national currency against the Euro in a band width of  $\pm 15\%$  the ECB is not confronted with officially defined exchange rate goals and objectives. And the ECB can object against ERM II-interventions if price stability in the Euro Area is endangered.

Of course the Governing Council of the ECB has estimations on exchange rate developments conducive to price stability in Euroland. It is theoretically accepted that in the long-term the real economic fundamentals of the economies and expectations on future stability and credibility are decisive for exchange rate developments. It was also accepted, that monetary policy actions can have significant influence on the exchange rates working via the so called portfolio balance

channel, altering the relative supply of domestic and foreign financial assets and thereby causing a change in the relative value of the currencies involved (Fratzscher, 2004). But in the past two decades the circumstances on international money markets have changed dramatically and the portfolio balance channel seems to have become less relevant over time due to the rapid increase of frequency and amount of foreign market exchange transactions. For example for Germany cross-border financial transactions have risen from just over 100% of GDP in 1990-1994 to nearly 500% in 2000-2003 (Knight, 2005).

This may be the reason why the ECB is very careful and used actual interventions in context with the USD/EUR exchange rate since the launch of the Euro only during two periods at the end of 2000. This happened when at the initiative of the ECB the price stability endangering depreciation of the Euro, moving out of line with the fundamentals of the Euro Area, was addressed in a concerted intervention of the ECB, the United States, Japan, the United Kingdom and Canada in September and later again by the ECB in November 2000. The Bundesbank quitted doing actual USD/DEM interventions already in the middle of the 90s.

In the same time oral exchange rate interventions happened with increased and remarkable frequency. Oral interventions as part of the communication policy of the central bank are public statements about the domestic exchange rate by relevant monetary policy makers. Marcel Fratzscher (2004) identified such oral interventions for the Bundesbank and the ECB and found that out of 97 oral USD/DEM-EUR interventions in the period of 1995-2003 an amount of 79 or about 80% happened from 1999-2003. This may be related to the introduction of the Euro and uncertainties about its "fair" price, but it may also be a sign for a variation of concept. Supported by comparable results for the United States Fratzscher speaks of a regime shift from actual interventions towards the use of official communication or oral interventions and concludes "... that oral interventions may constitute a largely autonomous policy tool ..." But such a behaviour could be interpreted as a form of capitulation in a world of globalized exchange transactions, too, considering actual "... exchange rate interventions to be largely ineffective, especially when undertaken unilaterally" (Posen, 2004).

Hence, the conclusion does not exclude the (concerted) use of actual interventions in future – may be supported by a change in the monetary policy stance, e.g. by an additional interest rate reduction because of an unwelcome increase of the exchange rate of domestic currency. Following Mark P. Taylor (2004), who holds a moderate optimistic view on the effectiveness of coordinated actual signal-interventions, the success depends very much on the fact, whether other investors are encouraged to follow the signal of the central banks and thereby start a change of tendency. In any case the still existing possibility of actual interventions and policy changes should be supportive for the effectiveness of oral interventions.

But the "shift" is once again a proof of the importance of communication policy of central banks to the markets and the public – in this context about the appropriate development of exchange rates and underlying fundamentals. Empirical results confirm that news about fundamentals have a significant effect on the exchange rate in the Euro Area (Ehrmann, Fratzscher, 2004). So responsible communication to the public by monetary authorities can open further prospects for monetary policy in a globalized world.

## **6. Conclusion: anchoring role of monetary analysis**

Modern central banking requires a comprehensive approach with firstly a privileged position of the money link to identify medium-term to long-term risks for price stability and to support pre-emptive actions of monetary policy. Second, it also requires an additional economic analysis to reveal more short-term risks for price stability. The two pillar strategy of the ECB comprises these two aspects by using an analysis of economic dynamics and shocks as one pillar and the analysis of monetary trends as second pillar. Third, and this is the lesson from the discussion about monetary targeting versus inflation targeting, modern central banking has to integrate and emphasize methods of inflation forecast.

But the conduct of monetary policy should not be based too mechanically on forecasts because such a reaction-rule can not describe the policy action to be taken in every situation in an ever changing complex economy and therefore use of it as an automatic prescription would not contribute to credibility. In May 2004 the ECB made a step to a more visible role of projections by the decision to publish staff projections of inflation quarterly and not only half-yearly. This was judged as laudable step to improve transparency and does not necessarily imply that the market participants get lazy because of too much information in advance or – as critics remarked – that ECB monetary policy becomes increasingly short sighted by looking mainly on short-time price movements (Leschke, Polleit, 2004). This could happen only by neglecting the anchoring role of monetary analysis and its information about medium-term risks for price stability.

## References

1. Bean C.R. Asset prices, financial instability and monetary policy // Papers and Proceedings of the Annual Meeting of the American Economic Association, 2004. – Vol. 94. – pp. 14-18.
2. Calvery J. The power of asset prices // The International Economy, 2002. – Vol. 16 – pp. 56-62.
3. De Grauwe P. Economics of Monetary Union. – Oxford: University Press, 2000. – 188 pp.
4. Dewald W.G. Bond market inflation expectations and longer-term trends in broad monetary growth and inflation in industrial countries // ECB-Working Paper, 2003. – № 253.
5. ECB. The outcome of the ECB's evaluation of its monetary policy strategy // Monthly Bulletin, 2003. – № 6. – pp. 79-92.
6. ECB. Extracting information from financial asset prices // Monthly Bulletin, 2004a. – № 11. – pp. 65-79.
7. ECB. Monetary analysis in real time // Monthly Bulletin, 2004b. – № 10. – pp. 43-63.
8. ECB. The monetary policy of the ECB. – Frankfurt am Main: ECB, 2004 c.
9. ECB. Worldwide trends in monetary aggregates over recent years // Monthly Bulletin, 2004d. – № 1. – pp. 10-12.
10. ECB. Asset price bubbles and monetary policy // Monthly Bulletin, 2005. – № 4. – pp. 47-60.
11. Ehrmann M., M. Fratzscher. Exchange rates and fundamentals // ECB – Working Paper, 2004. – № 365.
12. Fratzscher M. Communication and exchange rate policy // ECB – Working Paper, 2004. – № 363.
13. Goodhart C. Dear Jean Claude ... // Central Banking, 2005. – Vol. 16. – pp. 32-36.
14. Gramlich E.M. Maintaining price stability // Economic and Financial Review, 2004. – № 1. – pp. 13-26.
15. Greenspan A. Risk and uncertainty in monetary policy // Papers and Proceedings of the Annual Meeting of the American Economic Association, 2004. – № 2. – pp. 33-40.
16. Issing O. Einführung in die Geldtheorie. – München: Vahlen, 2003. – 213 pp.
17. Issing O. Interview for Central Banking // Deutsche Bundesbank – Auszüge aus Presseartikeln, 2004a. – № 8. – pp. 10-14.
18. Issing O. Should central banks burst bubbles? // Deutsche Bundesbank – Auszüge aus Presseartikeln, 2004b. – № 7. – pp. 5-6.
19. Issing O. The role of macroeconomic projections within the monetary policy strategy of the ECB // Economic Modelling, 2004c. – Vol. 21. – pp. 723-734.
20. Knight M. The international integration of financial systems // Financial stability and globalisation, Frankfurt: Stiftung Geld und Währung, 2004. – pp. 13-22.
21. Kuttner K.N. The role of policy rules in inflation targeting // Review – Federal Reserve Bank of St. Louis, 2004. – № 4. – pp. 89-111.
22. Leschke M., T. Polleit. A critical look at the role of Eurosystem staff inflation projections // Zeitschrift für das gesamte Kreditwesen, 2004. – Vol. 57. – pp. 1202-1205.
23. Levin A.T., F.M. Natalucci, J.M. Piger. Explicit inflation objectives and macroeconomic outcomes // ECB – Working Paper, 2004. – № 383.

24. Lomax R. Inflation targeting in practice: models, forecasts and hunches // Quarterly Bulletin / Bank of England, 2005. – № 5. – pp. 237-246.
25. Meltzer A. Rational and irrational bubbles // Central Banking, 2003. – Vol. 13. – pp. 36-45.
26. Motley B. Growth and inflation – a cross-country study // Economic Review, 2002. – № 1. – pp. 143-158.
27. Neumann M.J.M. Interview // Central Banking, 2003. – Vol. 13. – pp. 15-24.
28. Neumann M.J.M., C. Greiber. Inflation and core money growth in the Euro Area // Deutsche Bundesbank – Discussion Paper Series, 2004. – № 36.
29. Posen A. The forth generation of central banking // Euromoney, 2004. – Vol. 35. – pp. 266-269.
30. Remsperger H., D. Domanski. Vermögenspreise und Geldpolitik // Geldpolitik ohne Grenzen, Berlin: Duncker-Humboldt, 2003. – pp. 83-104.
31. Rodriguez-Palanzuela D., G. Camba-Mendez, J.R. Garcia. Relevant economic issues concerning the optimal rate of inflation // ECB-Working Paper, 2003. – № 278.
32. Schönwitz D. Theory and practice of monetary policy. Based on the clarified and confirmed concept of the ECB. – Frankfurt am Main: Bankakademie, 2004. – 18 pp.
33. Taylor M.P. Is official exchange rate intervention effective? // *Economica*, 2004. – № 2. – pp. 1-11.
34. Tietmeyer H. The value of monetary stability in the world today // *Währungsstabilität für Europa*, Baden-Baden: Nomos, 1996. – pp. 29-43.