

## Jürgen Stark: The external dimension of monetary analysis

Dinner speech by Mr Jürgen Stark, Member of the Executive Board of the European Central Bank, on the occasion of the ECB workshop on “The external dimension of monetary analysis”, Frankfurt am Main, 12 December 2007.

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The role of monetary analysis in the monetary policy process remains a topic of utmost importance to all central banks, whatever the strategy they pursue.

It is pertinent to adopt a new perspective on monetary analysis, focusing on the impact of the global environment on monetary developments and how they should be assessed.

Given the recent financial turmoil that has affected global markets, in part via international capital flows and global financial linkages, it is important to link monetary analysis to international developments.

Let me come straight to the key substantive issues. In essence, I see three main topics for discussion:

**First:** How can we assess global liquidity and what are its implications for consumer, commodity and asset prices?

**Second:** What evidence is there of possible links between global monetary liquidity, international portfolio flows and domestic monetary growth?

**Third:** In the context of the influences exerted by globalisation and, specifically, cross-border capital flows, what are the implications for monetary policy?

In my remarks, I will address each of these issues in turn.

**First** of all, when talking about liquidity, it is important to clarify that, in the field of central banking and monetary policy, there are at least four distinct definitions of liquidity – each with its own implications for policy-making.

The **first** relates to “central bank liquidity”, which is provided to the money market in order to steer short-term interest rates.

The **second** refers to the general “monetary policy stance”, as summarised by the level of policy interest rates.

The **third** relates to “financial market” liquidity, which is defined as the ease with which large volumes of financial securities can be traded, without affecting the market price.

The **fourth** refers to “monetary liquidity”, which is defined in quantitative terms on the basis of monetary and financial aggregates.

While all are important – indeed key – to monetary policy-making in the current environment of strong money and credit growth at the global level, I deem it necessary to say a few words on this last type of liquidity.

I think you would agree that it is difficult to precisely measure global monetary liquidity. There seems to be no universally accepted definition of it among economists. Several measures have been suggested and they all differ in many respects. They can be based on different monetary and credit aggregates; they may vary according to geographical coverage; and finally, they can be constructed using different types of aggregation.

Even more challenging is diagnosing at what point global monetary liquidity becomes excessive. For excessive I mean liquidity that poses a medium or long-term threat to price stability or starts to boost asset prices to levels not justified by economic fundamentals. Certainly, a normative concept is needed to define excess liquidity. I hope that these two

days will help us to make progress in reaching a common understanding on how to assess global liquidity insofar as the concept is established.

Looking at the current situation, at least it can be asserted that global liquidity has been increasing at a sustained and vigorous pace over the past few years. We are also experiencing high asset prices all across the commodity markets and in some areas both, the housing markets and the stock markets. Commodity prices – notably oil and food prices – are also now rising strongly at the global level. In my view, we should be concerned about – and, as central bankers, alert to – the possibility that there may be a spillover into consumer prices.

In particular, the wide availability of financial capital at low interest rates across the largest international financial markets has partly contributed to the significant rise in the prices of various assets in the recent years.

Concerns about the impact of ample liquidity on asset prices – notably the underpricing of risks that has been signalled by the ECB – have been repeatedly voiced.

In the context of rapid liquidity expansion, asset prices may overshoot, leading to potentially costly boom bust cycles, the misallocation of resources and pressures on price developments.

In this respect, ECB research has also shown that monetary liquidity shocks have played a role in driving asset prices during the boom phase of asset price cycles. However, the issue of empirical causality between asset prices and portfolio allocation, on the one hand, and money and credit developments, on the other, remains a subject of ongoing research.

A full understanding of the dynamics and forces behind global monetary liquidity is important for providing insights into the various transmission channels through which liquidity can affect the global business cycle, asset prices and global inflation.

In the current context, if global economic growth and global liquidity are likely explanations for the recent increase in commodity prices, the resulting inflationary pressures should not necessarily be dismissed as “non-core”. The long-run impact of global commodity price pressures on inflation will depend on whether they reflect a temporary shock or a more persistent nominal trend, driven partly by ample global liquidity.

Overall, when looking at the major OECD economies, consumer price inflation has been successfully contained for quite some time now. However, for the euro area at least, the information available at the current juncture – not least the monetary data at both the area-wide and global levels – points to upside risks to price stability.

Let me now address the **second** issue I raised earlier.

Before dealing with the evidence of possible links between global liquidity, international portfolio flows and euro area monetary growth, it is worthwhile recalling the theoretical work by James Tobin and Harry Markowitz on macroeconomics and asset pricing.

The bulk of Tobin’s work in the 1950s and 1960s was on the monetary side of macroeconomics. One of his main objectives was to establish a firm foundation for the sensitivity of money demand, or money velocity, to interest rates. He argued that people may prefer liquidity, and prefer it more the lower the interest rate on non-cash assets, because individuals are risk adverse.

Over the same period, Harry Markowitz worked on portfolio choice problems, balancing risks against expected returns. Markowitz showed that under certain given conditions, an investor’s portfolio choice can be reduced to balancing two dimensions, i.e. the expected return on the portfolio and its variance.

When the Nobel Prize was announced in 1981, Tobin was asked about his work at the press conference. He tried to explain for a lay audience the idea of why it is that people hold different proportions of different assets in their portfolios.

He said, “Well, you know, diversification – don’t put all your eggs in one basket”. This explanation led to headlines around the world: “Yale Economist Receives Nobel Prize for ‘Don’t Put All Your Eggs in One Basket’”. A similar argument was made when the Nobel Prize was awarded to Markowitz in 1990.

Indeed the key results of Tobin’s and Markowitz’s work are labelled the “benefits of portfolio diversification”. Managers and academic economists have long been aware of the necessity of taking risk, as well as returns, into account when making portfolio decisions.

The first pioneering contributions on money and asset pricing were therefore made in the 1950s, with the analysis focusing on the case of a closed economy. In this setting, for given risks, a rise in the expected excess returns implies a lower demand for money.

In the course of the last 20 years, the globalisation of financial markets owing to the reduction of transaction costs and the enhancement of information flows has increased the share of global wealth invested outside investors’ home jurisdictions. The models of Tobin and Markowitz have become, therefore, much more complicated when extending the analysis to the global environment.

Portfolio theory suggested that assets should be considered imperfect substitutes for each other, with the differences in their expected yields reflecting their marginal risks regardless of the economy being open or closed. However, the representative agent model is no longer applicable in the case of an open economy, as the presence of international capital flows requires either asymmetric information or heterogeneous belief among various agents.

This makes the theoretical and empirical efforts to search for policy solutions a very complicated business. In an open economy setting, for given risks, a rise in expected excess returns does not necessarily imply a lower demand for money. Domestic assets may be purchased by foreign investors generating net portfolio inflows, which would raise domestic money growth.

It is also true, however, that money and credit growth could trigger international portfolio flows.

Specifically, two mechanisms can be identified through which liquidity affects international portfolio flows. First, strong money and credit growth in one country may induce capital outflows to foreign asset markets, thereby exerting upward pressure on prices for financial and real assets abroad.

**Second:** At the same time, ample liquidity conditions in the domestic economy may fuel strong economic growth and be accompanied by higher asset prices, thereby inducing foreign capital inflows.

The current magnitude of the stock of global liquidity and global savings is such that the asset prices and money growth of large economic areas, including the euro area, can be affected by them. In the same vein, large net capital inflows, as well as their sudden reversals, may also have important real consequences for large economies as they can systematically influence domestic monetary developments with potential implications for monetary policy.

Evidence from the euro area shows that international portfolio flows have played an increasingly important role as a driving force for monetary dynamics.

As you are aware, the ECB’s monetary policy strategy attributes a prominent role to the analysis of monetary aggregates and their counterparts in the assessment of risks to price stability over the medium to longer term.

The growing size of international capital flows associated with globalisation of financial markets has made the analysis of monetary aggregates, for the purpose of extracting information for assessing price stability, increasingly more complex.

This brings me to discuss the **third** point: the implications of globalisation and of international capital flows for monetary policy.

If globalisation and, specifically, cross-border capital flows can affect the dynamics of monetary aggregates, how can we conduct monetary policy?

An improved shared understanding of the influence of global liquidity and cross-border capital flows on the monetary policy transmission mechanism is necessary to enhance the analysis underlying our decisions. Our role and responsibilities as central bankers remain intact in the globalised economy, but the performance of our task may be becoming more challenging. Certainly, there is a need for timely and open exchange of information among central banks and for further collaborative research efforts.

Still, let me stress that the globalisation of financial markets does not affect the central role and overriding responsibility of central banks, which is to preserve price stability within their respective jurisdictions. Central banks throughout the world have been assigned responsibility for keeping domestic inflation at low and stable rates.

Cross-border capital flows may affect the velocity of money, but the basic principle for anchoring monetary policy – that is the Friedman's view that "...in the long run, inflation is always and everywhere a monetary phenomenon" – remains valid. This has also been confirmed by studies that have found a strong relationship between monetary growth and inflation at low frequencies. In other words, the relationship between money and prices is stronger between the trend-like developments than between the business cycle fluctuations.

One interpretation of the international portfolio capital flows that influence monetary developments is that they introduce greater "noise" in shorter-term monetary dynamics, thereby increasing the importance of seeking the underlying rate of monetary expansion by looking at the lower-frequency, trend-like component of monetary growth.

Notwithstanding the complications created by an increasingly complex international financial system, money has been, is and will remain an important indicator of inflation.

The monetary policy strategy devised by the ECB, with its medium-to-longer-term orientation and the prominence it assigns to economic and monetary analysis, is well placed to address some of the implications of globalisation for inflation dynamics and price stability. The broad analytical framework on which the ECB's two-pillar strategy rests is well suited to detecting risks to price stability and to the economy as a whole.

There is a need to intensify the analytical efforts to deepen our understanding of several aspects of financial innovations, changes in the international financial system and their implications for the assessment of medium to longer-term risks to price stability.

Indeed, as our current agenda of enhancing the monetary analyses demonstrates, the ECB is in the vanguard of developing such tools.

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