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SESSION I

"OPTIMIZING THE CURRENCY AREA" BY MARKUS K. BRUNNERMEIER, PRINCETON UNIVERSITY

This paper addresses two challenges that the European Central Bank (ECB) faces and makes concrete suggestions for ways to resolve them.[1]

The first challenge concerns financial stability, which historically was the initial motivation for setting up central banks. My first suggestion is to refocus the rationale for the ECB's monetary pillar toward financial stability. This would provide clear guidance for designing the appropriate monetary aggregates as inputs for monetary policy decisions.

The second challenge concerns the large and persistent dispersion in price stability across the member states of the euro area. For many years, inflation has been significantly higher in some states than in others. Imbalances have been building and are likely to lead to difficult adjustments in the future. My second suggestion is to actively use a regionally differentiated "haircut policy" and "national macro-prudential regulation" as monetary policy tools.

For example, mortgage-backed securities that are based on mortgages granted in a euro member with high inflation should be subject to higher haircuts. This recommendation is a sharp departure from the ECB's current policy, which sets haircuts more from a risk management point of view that attempts to minimize default risk. The beauty of a regionally differentiated approach is that, while the ECB can set only one short-term interest rate, it can set regionally specific haircuts, which should translate into differentiated long-term rates for risky loans.

SUGGESTION 1: REFOCUS THE MONETARY PILLAR TOWARD FINANCIAL STABILITY

Monetary aggregates are at the heart of the ECB's monetary analysis. Currently, they are used only for cross-checking and to capture the longer-run aspects of monetary policy. The underlying rationale is the quantity theory of money, which states that a prolonged increase in the money supply will translate into an increase in the price level in the medium and long run (given a constant level of money velocity).

The new rationale for the monetary pillar should be financial stability. The theoretical underpinning of this rationale relies on a richer monetary theory that puts special emphasis on the redistributional effects of monetary policy.

The starting point is a change in our definition of risk. Since risk can be building in the background during a bubble phase and materialize only during a crisis, measures of current volatility are not good risk indicators. It is therefore important to follow growing imbalances and bubbles and lean against them. This is especially important when a bubble is accompanied by excessive credit

1 My suggestions are also part of a forthcoming book *Liquidity Provision, Crisis Management and Monetary Policy: Monitoring the ECB*, a joint effort with Charles Goodhart, Pierre-Olivier Gourinchas, and Rafael Repullo.

growth. Adopting such a perception of risk will lead to more proactive monetary policy and regulation compared with the existing paradigm.

When risk materializes and a bubble bursts, the financial intermediary in particular typically suffers, as it is hit on both sides of the balance sheet. For one thing, asset values erode. But also, as balance sheets are shrinking, the amount of inside money in the economy is reduced. The result is deflationary pressure à la Fisher (1933), which increases the real value of the intermediaries' liabilities (for a formal analysis, see Brunnermeier and Sannikov 2010). The overall effect is a reduction in intermediation, with the potential for dragging the whole economy into a severe and prolonged recession.

In addition, the usual monetary transmission mechanism might become impaired. Lax monetary policy is necessary to indirectly recapitalize the financial sector. The monetary authorities are busy handling the crisis and give the impression of being driven by events rather than of being in control and guiding the events. In addition, explicit bank bailouts can lead to high public deficits. Both policies have the potential to increase inflation expectations in the very long run. In the short and intermediate term, the environment will be characterized by heightened uncertainty.

In sum, unlike the quantity theory of money, which delivers the straightforward prediction that an increase in monetary aggregates leads to higher price levels, the financial stability view leaves a different time stamp. Excessive credit growth and imbalances can lead to financial instability and deflationary pressure. The monetary authorities' efforts to clean up after the crisis can lead to higher inflationary pressures in the very long run.

My suggestion to refocus the monetary pillar is based on the following reasonings. First, I will stress the importance of monetary policy leaning against growing imbalances and bubbles by countering each of the five arguments often brought forward in favor of a "benign neglect" policy toward bubbles. Monitoring quantity aggregates is key in detecting these imbalances. Second, I will argue that focusing the monetary pillar on financial stability helps in designing better monetary aggregates. I conclude by arguing that monetary stability and financial stability cannot be treated separately, as they are closely intertwined.

The first argument I will counter is that it is very difficult to identify bubbles and hence we should not act against them. This argument can be advanced against any sort of policy making. Any decision making is performed under uncertainty, and one can never know the right action other than to employ a risk management approach: If it is sufficiently likely that a bubble has emerged, then one should lean against it.

Sometimes simple anecdotes, like the one in which people flip houses in a few days, are useful signs that imbalances are building.

The second argument often brought up is that one need not lean against a bubble since it is possible to clean up after it has burst. I think the recent crisis has

shown that, in that respect, there is a huge difference between an asset price bubble and a credit bubble. It is possible to clean up after an asset price bubble like the dot-com boom, but if the bubble is financed with credit as was true with the housing bubble – or as in the 1920s, when many investors bought stocks on margins – then it is much harder to clean up afterward. The lesson is that we have to be much more conscious of credit bubbles than asset bubbles.

The third argument often heard is that interest rates are not the most effective tool for pricking bubbles and hence should not be used. Indeed, higher interest rates are quite ineffective in the late phases of a bubble. When a bubble has already gained momentum and euphoria breaks out, an interest rate increase of half a percentage point might not make much of a difference. The Bank of Japan's failed attempt to burst a bubble with higher interest rates is consistent with this view, which suggests that credit controls are a more effective method for bursting a "ripe bubble." However, higher interest rates can be an effective tool in the early phase of a bubble, because an interest rate spike has a huge signalling component. A higher interest rate might also make it less attractive to buy structured products, since their short-term financing becomes more expensive.

A fourth and related argument frequently advanced is that interest rates are too crude a tool to burst bubbles. However, it is true that bubbles affect a large part of the economy and therefore policy makers should be willing to use this tool, along with others. To the extent that other, more targeted policy measures are at its disposal, the central bank should make use of them as well. Indeed, I will argue later that the ECB should use a policy of different haircuts for different member states in order to lean against imbalances within the euro area.

Finally, a major argument against pricking bubbles is that it can lead to disastrous outcomes. The burst of the U.S. bubble in 1929 indeed led to an economic disaster. The Bank of Japan brought the bubble down in 1989 – not through high interest rates, but through "total volume control," which limited credit growth to the real estate sector. The burst of the bubble was followed by at least two "lost" decades. However, the real question is what would have happened if the bubble had grown even further – say, over another two or three years. Then an even bigger bubble would have had to burst. The real problem is that the action was taken too late, and hence the bubble burst too late.

All of these reasons lead me to the conclusion that central banks should lean against the build-up of imbalances.

Monitoring quantity aggregates in addition to price and interest rate variables is essential for detecting bubbles and growing imbalances. Refocusing the ECB's monetary pillar toward financial stability gives clearer guidance concerning which credit and monetary aggregates to follow. Risk builds in the background if bubbles and imbalances are accompanied by excessive credit growth. Credit growth is only partially captured by the current monetary aggregates, like M3. Hence, policy makers might want to consider incorporating other credit elements into monetary aggregates.

Special attention should be given to newly extended credit lines, since simple measures of credit growth might be misleading. Firms might draw on existing credit lines just for precautionary reasons when they foresee financial difficulties. That is, excessive draws on credit lines can be a sign of upcoming trouble. On the other hand, newly extended credit lines signal more directly that banks are willing to lend.

The central bank should also pay special attention to the maturity structure of credit. The credit maturity structure typically shortens during a bubble phase. Optimistic borrowers think that they can easily roll over short-term debt, while pessimistic lenders find it safer to lend short-term. In the run-up to the subprime crisis, the debt market became more and more short-term. One sign was the excessive growth of the overnight repo market in the United States. As mentioned earlier, growth of short-term credit accompanied by an asset price bubble is a dangerous mix.

Finally, it is important to note that financial stability and monetary stability are strongly interlinked. They cannot be separately analyzed and handled in the policy domain. For example, one consequence of lax monetary policy is to recapitalize financial intermediaries – an activity that is at the heart of financial stability as well. Whether monetary policy is the cheapest and most effective way to recapitalize financial intermediaries is a different question, but one should not ignore the fact that monetary policy has significant redistributive effects (see Brunnermeier and Sannikov 2010).

SUGGESTION 2: HAIRCUTS AS A POLICY TOOL TO OPTIMIZE CURRENCY AREAS

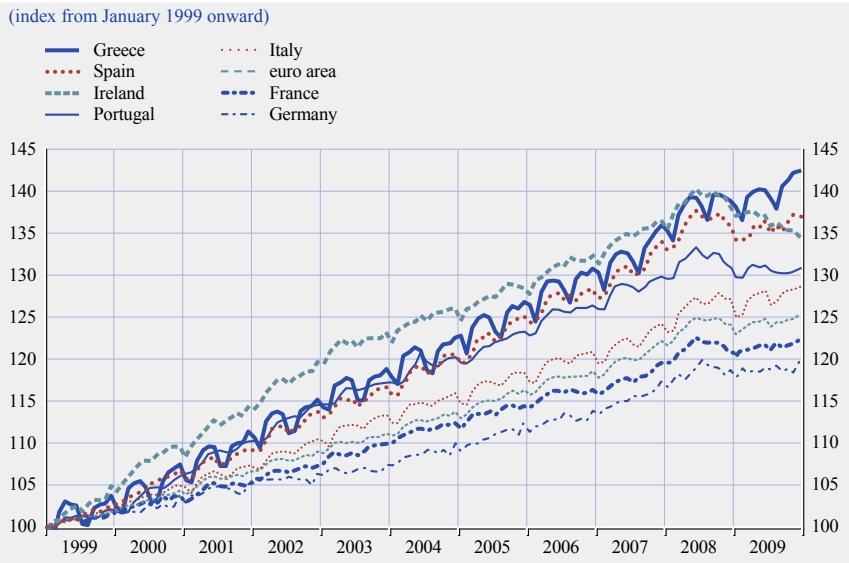
Europe's second challenge is the large and persistent dispersion in inflation within the euro area. Figure 1 depicts the price index for various countries in the euro area, starting at a level of 100 in January 1999, when the euro was first launched. Two features stand out. That overall inflation in the euro area seems to be contained is primarily due to the modest inflation rates in some large countries like Germany and France. In contrast, other countries, such as Greece, Spain, and Ireland, experienced much higher inflation.

The second notable feature is that the lines hardly cross. In other words, some countries consistently had higher inflation rates for almost a decade. This persistence in inflation dispersion within the euro area, combined with current account imbalances and regional housing bubbles, should have been warning signs that risk was building in the background.[2]

The question is how to control these regional differences and lean against regional bubbles and imbalances within the euro area. The traditional "optimal currency area" literature has no answer for this, since it assumes the central bank has only one policy instrument at its disposal: a single short-term interest

2 It is unlikely that this difference can solely be attributed to the Balassa-Samuelson effect.

HICP (Harmonized Index of Consumer Prices)



Sources: European Central Bank and EuroStat.

rate for the entire currency area. Introducing a common currency eliminates the possibility of fine-tuning the interest rate for specific regions. That is, the central bank is forced to set the same interest rate for all members of the currency union. Exchange rate movements, which typically play the role of a shock-absorbing valve, are also switched off.

As a consequence, the traditional literature on optimal currency areas concludes that countries should join a currency union only if they do not face large asymmetric shocks, have high labor mobility, and are capable of fiscal integration. Indeed, Galí and Monacelli (2008) argue that members should use coordinated fiscal policy as a second instrument. Since I do not think a highly integrated transfer union is politically feasible for the euro area in the near future, I intend to focus on what the ECB can actually do in the current environment to optimize its currency area.

It is important to note that while the short-term interest rate across the currency union has to be identical, the long-term rate for risky loans need not be. It is this risky long-term rate extended to firms and home buyers that affects real economic activity. The difference between the long-term interest rate and the short-term rate, the term spread, as well as the difference between a risky long-term rate and the risk-free rate, the credit spread, can also be influenced by the monetary authorities.

Viewed from this angle, the ECB has more "regional tools" at its disposal to overcome the shortcomings of a common currency area than is traditionally thought. Stated differently, the euro area, which might not be an ideal currency

area from the viewpoint of the traditional literature, can be "made optimal" by using tools that directly affect the regional credit and term spreads.

Unconventional monetary policy allows central banks to influence term and credit spreads directly by buying or selling long-term risky assets. In this paper, I focus on two other instruments: 1) haircut policy, and 2) regional financial regulation. For example, the ECB should impose haircuts and stricter collateral requirements for mortgages or loans issued in member countries that experience high inflation and excessive capital inflows.[3] This makes refinancing these products more costly and ultimately leads to higher term and credit spreads in these countries.

Macro-prudential regulation can also tighten bank financing in certain member countries. It would therefore be advantageous if macro-prudential regulation can be regionally fine-tuned and centrally coordinated via the European Systemic Risk Board. In this respect, the Bank of Spain deserves some credit. Its dynamic provisioning imposed tighter regulation on Spanish banks during the recent upswing. Even though the Spanish tightening was not strong enough, it can serve as role model for which direction to go.

Note that using haircuts to lean against regional imbalances is in sharp contrast to the ECB's current policy. Currently, the ECB uses collateral and haircut policy purely as a risk management tool, i.e., to minimize potential losses from lending against certain assets. Furthermore, there is a tendency to treat all member countries the same and avoid any differentiation. This makes all spreads more uniform across the membership countries – the opposite effect of what a targeted active policy that leans against regional imbalances would prescribe.[4]

Using monetary tools to lean against imbalances might arguably be more effective than imposing sanctioning mechanisms based on some sort of modified Maastricht criteria. The case of Ireland highlights the advantage of my approach. Ireland satisfied all the Maastricht criteria throughout the "bubble years." Yet, during those years, large macro imbalances accumulated – especially private debt levels – and inflation was persistently high (see Figure 1).

Any sanctioning mechanism based on Maastricht criteria would not have made any difference. Ireland's ratio of public debt to GDP was well below the limits. High private debt levels and current account imbalances are not accounted for in the Maastricht criteria. In contrast, regional monetary tools can be directly targeted wherever the imbalances appear, and they directly impact certain term or credit spreads. By using monetary tools to lean against the imbalances, the ECB not only can increase financial stability, but also can reduce dispersion of inflation within the euro area.

3 For a more formal academic analysis of this idea, see Brunnermeier and Gourinchas (work in progress).

4 Buiter and Sibert (2005) point out the distortionary effects of this uniform treatment of haircuts across sovereign debt.

Finally, the tools described above, such as an active regional haircut policy, have another important advantage: They can be implemented immediately without requiring a modification of the Maastricht treaty, which needs to be ratified by all the EU member states.

In conclusion, I have tried to convey two messages. First, I would encourage the ECB to maintain its monetary pillar, but to give it a more solid footing by refocusing it on financial stability. This should help avoid crisis periods that can lead to deflationary pressures and, potentially, to long-run price instability. Second, the ECB should use its haircut policy and regional fiscal regulation as an active policy tool to lean against regional imbalances and persistent regional inflation. Such an approach would bring the euro area closer to an optimal currency area without requiring any legislative changes.

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