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Effects and Risks of Unconventional Monetary Policy

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Abstract: During and after the Great Recession, the European Central Bank adopted unconventional monetary policies that are more or less uncontroversial in the literature. By contrast, its quantitative easing (QE) program that started in 2015 is highly disputed. The article evaluates the pros and cons of such a policy.

Keywords: Quantitative easing; European Central Bank; excess reserves; money multiplier.

JEL-Classification: E51, E52, E58

1. Introduction

During and after the Great Recession of 2008/09, the European Central Bank (ECB) adopted strong measures, including reductions in the main refinancing rate, a long-term refinancing operation (LTRO), outright purchases of selected government bonds (SMP), and more generous collateral requirements. These actions resulted in a considerable increase in the monetary base, which peaked in 2012 and was reversed thereafter because LTRO expired gradually. In a second phase, which started in 2015 and is commonly referred to as quantitative easing (QE), the ECB provided a further round of bank loans (TLTRO) combined with central bank purchases of various assets such as covered bonds, asset backed securities, and corporate bonds. The main component during this second phase, however, is the public-sector purchase program (PSPP), which consists of large-scale purchases of government bonds. As of March 2015, the ECB's total monthly asset purchases amounted to 60 bn. euros; from March 2016 on this figure was increased to 80 bn. euros.

In the literature, monetary interventions during 2008-09 are largely uncontroversial; most economists agree with the view that the ECB acted as a lender of last resort during the financial crisis and the associated recession. This article attempts to evaluate the second phase, i.e., the QE program commencing in 2015, where no recession was in sight. From a theoretical perspective, the article considers possible rationales and risks of such unprecedented monetary measures. Its main conclusion is that QE has no notable benefits but comes with considerable risks, which stem mainly from the deepened interaction of monetary and fiscal policy.

2. Economic Effects of QE

To provide some background, figure 1 documents the evolution of the eurozone money base (high-powered money, H) between 2008 and 2016 and compares this with the developments of the M1 money stock and the eurozone's nominal gross domestic product (NGDP). While expansionary monetary policies can take many forms (e.g. interest rate reductions, extensions of credit lines, or relaxation of eligibility terms), their common identifying element is an expansion of the central bank's balance sheet that represents an increase in the money base. Measuring the ECB's policy stance this way, figure 1 shows that monetary policy was moderately expansive until 2011, when the LTRO program started. Because the bank loans granted through LTRO were limited to at most 3 years, this expansion expired automatically. From 2015 on, however, the money base skyrockets, and an end of its expansion is not yet in sight.

Crucially, the large swings in the money base were neither mirrored by corresponding swings in the money stock, nor did they produce inflation or growth. Quite the contrary, M1 money and the NGDP evolved more or less steadily, and their growth was reticent. During the entire period 2008-2016, eurozone NGDP grew by only 13 percent, or 1.3 percent annually. The comparably stronger growth of the money stock of 81 percent, or 6.8 percent annually, is consistent with the decrease in nominal interest rates over the shown period, because lower opportunity cost of money balances diminish the circular velocity. The money base, by contrast, almost tripled during the shown period, and it is very likely to outstrip M1 growth still further during 2017.

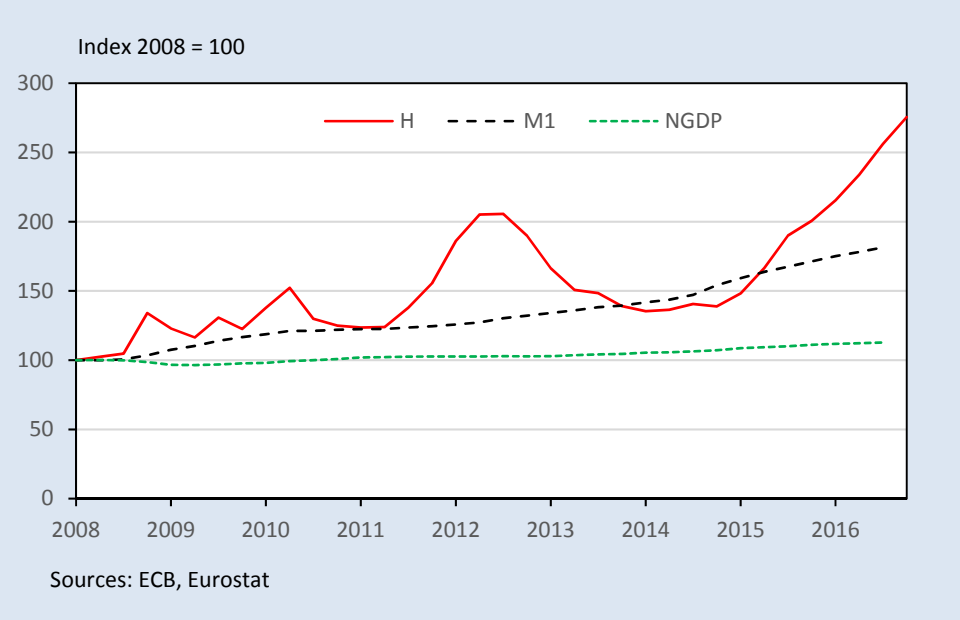

Figure 1

To account for the implied inapplicability of the money multiplier approach, which stipulates a constant ratio M1/H, it is important to recall the central premise of this approach. Commercial banks need high-powered money to meet reserve requirements and to satisfy their customers' currency demand. The multiplier model's key assumption is that banks never hold excess reserves but always increase credit and deposit money up to the point where reserves just meet the legal and currency requirements. Under this premise, any increase in the money base induces corresponding increases in credit and the money stock, which stimulate commodity demand and ultimately elevate the NGDP.

One may object to this analysis that monetary policy is commonly described today in terms of changes in key interest rates (the target federal funds rate in the US, the main refinancing rate in the eurozone). Since commercial banks always operate on their demand curve for reserves, however, this is not a matter of substance but of exposition. The money base is the ultimate anchor of modern currency systems because all monetary variables are linear in this variable. A key interest rate, by contrast, can hardly assume the role of a nominal anchor because its components—expected inflation and the real interest rate—are endogenous and volatile. Put differently, a given nominal interest rate may indicate an expansionary or a restrictive monetary policy stance, respectively, depending on the current levels of expected inflation and real interest. Hence, considering the evolution of the money base is more convenient from an analytical point of view.

Figure 2 suggests that the money multiplier model worked well in the eurozone until 2008. Its central premise, zero excess reserves, was essentially fulfilled. The stochastic residuum of reserves, first analyzed by Poole (1968), averaged about only one bn. euros. From September 2008 on, however, excess reserves surged drastically, with a pattern that closely resembled the pattern of the money base in figure 1. In particular, excess reserves rose to almost 800 bn. euros in 2012 as a result of the LTRO operation. Thereafter, they died away and

would have probably returned to zero under conventional monetary policy. With QE, excess reserves resumed their previous growth.

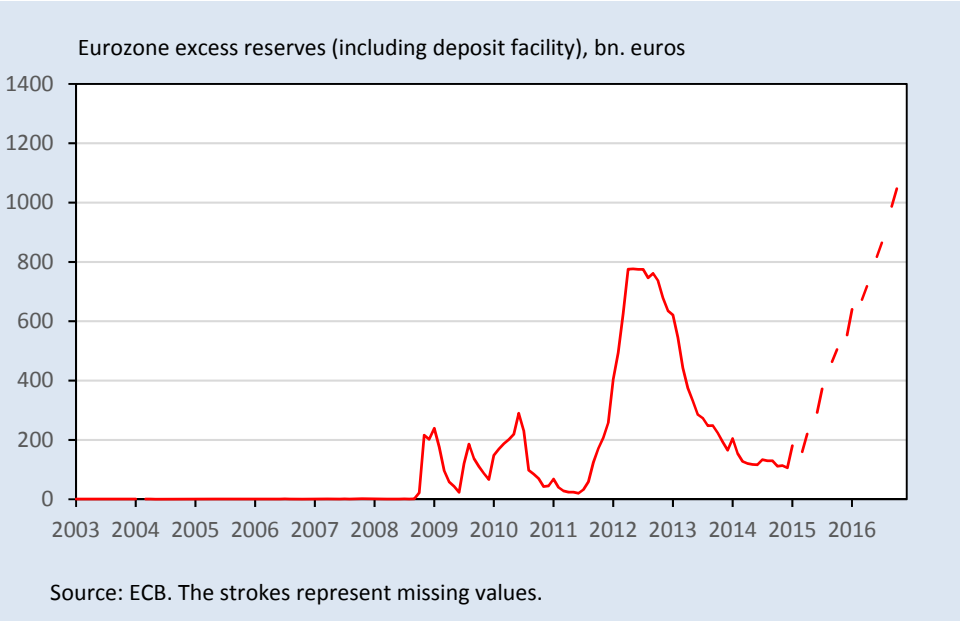

Figure 2

What do these graphs mean for the effectiveness of QE? To repeat, central bank reserves are normally scarce for commercial banks, and this shortage is reflected by positive interest rates in the overnight interbank markets. Under these circumstances, an increase in the money base, i.e., the provision of additional reserves, induces banks to create credit and deposit money, which stimulates the economy. When reserves become superabundant, as after September 2008, the accustomed transmission mechanism breaks down because credit and money creation are no more restricted by reserves; and the superabundance of reserves is indicated by an interbank interest rate near zero. The features that may now limit credit creation are lack of credit demand, credit rationing, shortage of bank equity, or bank regulations. It is not entirely clear which of these factors dominates, but first principles of optimization theory imply that relaxing a constraint that already has slack (the reserve constraint) will not change economic behavior.

The upshot of this line of reasoning is that increasing reserves further will fail to lift the inflation rate immediately because it will hardly affect M1 money growth. This argument is reinforced by the observation that QE was similarly ineffective in Japan and the US; see Homburg (2017). In these currency areas, drastic monetary expansions depressed interbank interest rates to nearly zero, induced vast amounts of excess reserves, but had no visible effects on inflation and growth. To be sure, QE may have reduced nominal interest rates in Japan and the US, but its original objective was to stimulate NGDP.

3. Risks of QE

The preceding section argued that further expansions in bank reserves and the money base are unlikely to stimulate credit, the money stock, and eurozone NGDP because banks are not reserve constrained. Considering the commercial banks' balance sheet in figure 3 suggests that if the ECB provides more reserves in exchange for government bonds held by

banks, this operation constitutes a mere *asset swap* for banks and has no further effect if reserves and bonds bear an interest close to zero; approximately, banks obtain zero-interest reserves in exchange for zero-interest bonds.

Different outcomes emerge, however, if the ECB buys assets not from banks but from third parties such as insurers and pension funds: In this case, QE increases bank reserves and bank deposits, which amounts to a *balance sheet extension* rather than an asset swap. Under the Basel III framework, which does not only limit risk-weighted capital ratios but also the unweighted overall leverage ratio (the ratio of tier 1 capital and the balance sheet total), QE is likely to have unintended consequences on bank behavior: Banks that have difficulties to raise additional tier 1 capital must reduce their provision of loans to the private sector if QE impairs their leverage ratio through boosts in reserves and deposits. Bucalossi and Scalia (2016) expect that QE will markedly downgrade eurozone leverage ratios in 2017. Notably, such a crowding-out of private investment by government debt does not operate through the accustomed mechanism of higher interest rates but functions stealthily through the interaction of QE and leverage requirements.

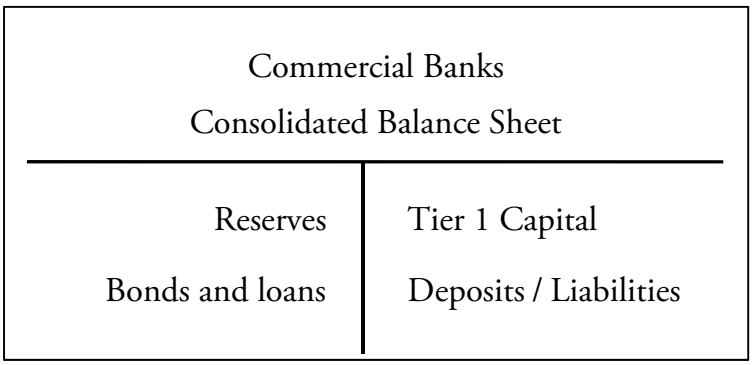

Figure 3

A second danger of QE results from the above observation that the eurozone's monetary system became unanchored. At present, eurozone credit expansion is inhibited by factors such as scarcity of bank equity and regulations. In the US, these obstacles to credit creation and inflation are already relaxing. What if they relax here in the more distant future? Theoretically, the ECB could reduce the money base through "quantitative tightening" operations, i.e., vast asset disposals. Such counter-measures, however, are unlikely from a practical perspective, because they would entail massive increases in interest rates and hazards for the principal debtors, the governments of the eurozone.

This leads over to the third risk, which is the most important. In 2011, when overindebted eurozone member states such as Italy and Spain were at the brink of default while other countries like Greece, Portugal, and Ireland had already been bailed out by fiscal measures, the ECB discovered a new objective, namely, the preservation of the eurozone. As a result, ECB president Draghi promised to bail out insolvent member states "whatever it takes". Draghi's announcement of the "outright monetary transactions program", or OMT, was a real game-changer: Notwithstanding that government debt ratios have steadily *risen* since, risk spreads of the peripheral countries were considerably reduced.

The announcement of OMT and the implementation of QE completed the dismantling of the precautionary pillars of the Maastricht treaty that were designed to exclude the well-known moral hazard problems of any currency union: The first pillar, the preventive arm of the Stability and Growth pact, was disregarded from the outset by many member states. The second pillar, the no-bailout rule, was broken since 2010. QE dispensed with the foreclosure of monetary state financing as the third pillar and, equally importantly, invalidated the count on market discipline through risk premia as the fourth and last pillar.

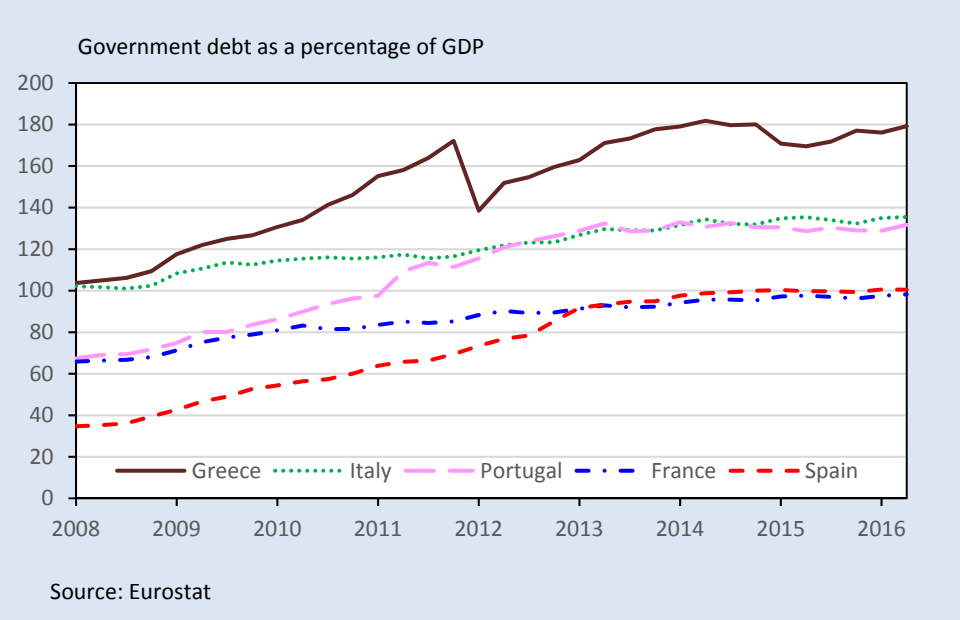

Figure 4

Contradicting the popular "austerity" narrative, the peripheral countries, including France, have raised their debt-to-GDP ratios permanently, as documented in figure 4. This outcome accords with economic theory and historical experience from currency unions. Italy illustrates the underlying political mechanisms particularly well: Its government introduced a property tax in 2012 to make public finances sustainable, and repealed this measure in 2013 because it felt safe under the new regime of monetary financing. Whereas only Greece and Italy exceeded a debt-to-GDP ratio of 100 percent in 2008, Portugal, Spain and France have caught up since.

4. Conclusion

To sum up, strong increases in reserves and the money base through QE are highly unlikely to affect inflation and growth in an environment where banks are already flooded with reserves; the traditional transmission mechanism simply does not function. On the other hand, the incentive effects of a monetary policy that soaks up large parts of public debt (perhaps all public debt, if it is carried on for longer) and the resulting moral hazard are considerable. The article does not conclude with a positive recommendation because the intersection of reasonable and politically feasible solutions is an empty set.

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