Vítor Constâncio: Role and effects of the ECB non-standard policy measures

Remarks by Mr Vítor Constâncio, Vice-President of the European Central Bank, at the ECB Workshop "Monetary Policy in Non-Standard Times", Frankfurt am Main, 11 and 12 September 2017.

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Our two-day workshop on non-standard monetary policy measures is coming to a conclusion. Similar workshops have become a regular part of our annual conference schedule here at the ECB for almost ten years now. They keep offering novel insights and help to deepen our understanding on the transmission and optimal conduct of non-standard measures. This workshop was no exception. In my concluding remarks, I will share personal takeaways regarding some of the non-standard measures deployed by the ECB since the beginning of the global financial crisis. These policies include the provision of liquidity on demand at fixed rate full allotment since October 2008; facilities to provide medium-term liquidity to banks against collateral in a series of long-term refinancing operations (LTROs); the Outright Monetary Transactions (OMT) programme; the use of forward guidance in our monetary policy communication as well as the large-scale asset purchase programme (APP) and the use of negative interest rates. The workshop papers provide a rich set of analysis relevant for many of these non-standard measures that I will refer to in my remarks.

Credit easing programmes

Banks play a predominant role in the euro area financial system, so it was particularly important to support banks' credit provision after the turbulence caused by the global financial crisis. Research on the bank lending channel and the effectiveness of our credit easing programme is particularly welcome and was well represented at our workshop. Let me briefly review two contributions with particular relevance for the euro area:

The paper by Boeckx and co-authors studies the response of bank lending to firms to credit easing measures. They find a positive effect for the most constrained banks, provided that they have a sufficiently high capital buffer. Poorly capitalised banks do not respond to the credit support measures. These findings underscore the interactions between prudential regulation and monetary policy and gives further justification for setting up the SSM and the regular stress testing exercise, ultimately serving not only financial stability but also the effectiveness of euro area monetary policy.

The paper by Cahn and co-authors is on the effects of the Additional Credit Claim (ACC) framework, decided on 8 December 2011, to address bank funding concerns in several euro area countries. Credit claims are loans that banks can pledge as collateral with the ECB to obtain liquidity in our refinancing operations. As you may recall, at the end of 2011 we decided to offer the euro area banking sector two additional LTROs with a maturity of 3 years and an interest rate as low as 1 percent, fixed over the maturity of the operation. But that alone would not have been sufficient. Banks also needed collateral to access the operations. While overall collateral buffers were sufficient, the distribution of eligible collateral between banks was highly uneven. The ACC framework comes into play here. It allowed NCBs to temporarily accept an expanded list of credit claims as collateral in their refinancing operations. Specific risk mitigation measures were put in place to keep the overall risk of the collateral pool unchanged. I interpret the results of Cahn and co-authors as supportive for our decision in December 2011. The paper shows that the ACC made a crucial difference for banks' lending behaviour. SMEs that were previously served by only one bank, i.e. the part of firms most vulnerable to a tightening of credit,

benefitted the most from the introduction of the ACC framework. The findings clearly show the importance for policy makers to understand the constraints under which lending decisions are being made; although collateral appeared to be sufficient when we launched the 3-year LTROS. Without ACCs, many firms would not have benefitted from the liquidity injection.

Besides the bank lending channel, our credit easing policies also influenced the euro area economy through the exchange rate channel. The nominal exchange rate is one of the asset prices that we pay particular attention to because of its impact on the inflation rate. Dedola and co-authors (2016) document the effectiveness of our balance sheet policies on the exchange rate and their transmission to prices and economic activity in a careful empirical analysis. It is notable that the authors find significant exchange rate effects predominantly emanating from a reduction in international financial distortions achieved by our liquidity policies. It is an open question whether their results will change were they to redo their exercise in a follow-up study for APP-related balance sheet changes. For this exercise to be feasible, further data points are however needed.

The Outright Monetary Transactions Programme

By mid-2012, the global financial crisis had morphed into a sovereign debt crisis in the euro area. In stressed countries, interest rate spreads had grown excessively and monetary conditions became tight despite the easy stance of monetary policy. The problem was a liquidity crisis: a general distrust among market participants about the future ability of distressed sovereigns to roll over their debt. The crisis had self-fulfilling features: under low interest rates sovereigns were solvent, but the high interest rates demanded by market participants and the ensuing deterioration of the economic outlook indeed threatened the sustainability of some of the stressed sovereigns.

The OMT programme was designed to diffuse such tensions. It offers conditional liquidity insurance by promising outright purchases of sovereign bonds with maturities up to 3 years on the condition that the countries meet domestic economic conditions laid out by an agreement with the European Stability Mechanism. The credibility and the potential 'fire-power' of the ECB have made the programme successful. Without actually spending one euro to this day, the programme has contributed to the steep decline of sovereign spreads by as much as 2 percentage points. The evidence analysed by ECB researchers in Altavilla, Giannone and Lenza (2016), suggests that this helped ensure a more uniform transmission of our exceptionally easy interest rate policy and led to substantial increases in credit growth, activity and prices in stressed countries, with some positive spill-overs to core countries.

These events and the success of the different policy actions have drawn renewed attention to the relevance of macroeconomic frameworks that can help us understand situations with multiple equilibria and devise appropriate policy responses. I am encouraged to see new quantitative macroeconomic models incorporating such frameworks,[1]

See e.g. Corsetti-Dedola, 2016 for a framework with self-fulfilling sovereign debt crises and Gertler and Kiyotaki, 2016 for a framework with systemic bank runs.

some with the help of ECB researchers, and see some potential for future policy-relevant research in this area.

Forward guidance

Let me now turn to the most "standard" instrument in the central bankers' toolkit of non-standard measures: "forward guidance" about the future conduct of monetary policy. Its emphasis is on the management of expectations, as opposed to the current setting of a monetary policy instrument. Most frequently it has been related to the future course of policy rates, but the ECB also provides forward guidance in relation to its asset purchases. In fact, ECB's forward

guidance currently links the lift-off date for interest rates to the end of net asset purchases by stating that “we expect the key ECB interest rates to remain at their present levels […] well past the horizon of our net asset purchases.”

The effectiveness of forward guidance is however, a hotly debated topic, both in academia and in policy circles. In standard dynamic stochastic general equilibrium (DSGE) models, forward guidance is extremely effective, under the usual assumptions of forward-looking rational expectations, coupled with the central bank’s ability to commit to future actions. So much so that the lower bound on nominal interest rates in these models becomes a trivial constraint: the central bank can maintain the full effectiveness of monetary policy by setting an appropriate future lift-off date. This is a consequence of the models assuming that consumer behaviour is determined by standard Euler equations that impose a strong present impact on consumption resulting from the future behaviour of interest rates. However, economists and policy makers around the world including myself, are much more sceptical about the power of forward guidance alone to deliver stable macroeconomic outcomes in relation to the predictions of the standard models. This became known in the literature as the “forward guidance puzzle” (a term coined by Del Negro, Giannoni, and Patterson, 2015). Naturally, forward guidance helps but it certainly does not possess the powerful grip on the economy that it shows in the standard theory. Furthermore, its marginal effectiveness is certainly not increasing as the central bank extends the lift-off date further in the future. Therefore, an effort to amend the standard theory is needed, and I am very glad that some of the papers presented at this conference address this very issue.

At this point in time, there is a wealth of approaches to solve the problem created in DSGE models.[2]

See Del Negro, Giannoni, and Patterson, 2015, Gabaix (2016), Garcia-Schmidt and Woodford (2015), McKay, Nakamura and Steinsson (2016), Werning (2015), for example.

Among these, I find the solutions of McKay and co-authors (2016) and Gabaix (2015 and 2016) particularly useful. Heterogeneous agents, credit constraints and precautionary savings limit the reaction of consumers to future interest rate movements. Gabaix introduces behavioural agents with myopic capacity to perfectly anticipate the future, a hypothesis reflected in a discounted Euler equation that avoids the “forward guidance puzzle” and illustrates the advantages of considering shorter horizons implied by behavioural cognitive impairments.

The approach of Angeletos and Lian (2016) is also promising.[3]

Their work is related to earlier contributions by Morris and Shin (1998, 2002) and Woodford (2003) and is similar in spirit to Adam and Marcet’s work (2011) on “internal” vs “external” rationality.

It relaxes the assumption of ‘common knowledge,’ which typically goes hand in hand with the assumption of rational expectations. The paper points out that the puzzlingly strong effects of forward guidance arise through general equilibrium mechanisms, such as the feedback loop between aggregate spending and inflation. Assuming a lack of common knowledge attenuates the general equilibrium effects. Sufficiently strong information frictions qualitatively solve the forward guidance puzzle through anchoring the response of expectations to changes in policy. This is clearly another intuitive and welcome development in the theory of monetary macroeconomics.

What do these findings imply for the practice of forward guidance? As policy makers, we know that many of the conditions that the standard models presuppose are often not met in practice. We are also acutely aware of the challenges that arise when attempting to effectively communicate the conditionality of promises on the future path of interest rates. We understand the advantages of a consistent and clear communication strategy – indeed, inconsistent or vague promises about the future course of monetary policy often introduce additional noise and

raise rather than reduce economic uncertainty. My answer therefore is that we will continue using forward guidance to some extent, but knowing that it is an imperfect tool and therefore only as one of the various non-standard measures that we can activate when deemed necessary.

Large Scale Asset Purchases

Large-scale asset purchases, especially purchases of sovereign bonds since early 2015, have been one of our most salient non-standard measures in the euro area. The Eurosystem has already purchased more than 2 trillion euros of public and private assets and we intend to purchase assets at a monthly pace of 60 billion euros until December 2017, or beyond, if necessary, and in any case until the Governing Council sees a sustained adjustment in the path of inflation consistent with our inflation aim. The programme was instrumental in eliminating deflation risks, contributes to the ongoing recovery and helps us bring inflation closer towards our objective.

The APP in the euro area has drawn attention to particular transmission channels of large-scale asset purchases over and above the standard portfolio rebalancing and signalling channels.

Another classic channel through which the programme exerts its influence is the so-called 'duration channel,' which also appeared in multiple papers presented at the workshop. According to this view, the public-sector purchase programme can best be understood as a swap of long-term sovereign debt for short-term – actually overnight – central bank deposits by the Eurosystem. This swap influences asset prices because the central bank eliminates duration risk from the private market. Suggestive evidence on this channel in action in the euro area was described in Altavilla and co-authors (2016). The ECB researchers analysed the intraday development of government bond prices during the January 2015 press conference, when the details of the programme were announced. Surveys conducted before the announcement suggested that market participants expected the maximum maturity of eligible assets to be around 10 years. Instead, the eligible assets included bonds with maturities up to 30 years. The researchers could separately identify the impact of this duration surprise, because its announcement came somewhat later than the announcement of the overall size of the purchases, (which was also somewhat larger than expected). They confirmed that the duration announcement reduced yields all across the maturity spectrum – and not just for assets with maturities over 10 years – in line with the predictions of the duration channel.

The paper by De Graeve and his co-author (2016) presented at this workshop confirms, for the United States, that reducing the outstanding maturity of sovereign debt through asset purchases does indeed reduce long-term interest rates. This is consistent with recent euro area observations. Their paper also draws attention to an important condition for the effectiveness of a public-sector purchase programme: governments' maturity policy should not undo the impact of the maturity reduction through increasing the relative supply of long-term government bonds. U.S. evidence cautioned about this effect: Greenwood and co-authors (2014) estimated that the Treasury's active maturity extension programme offset around one-third of the duration supply impact of Quantitative Easing (QE) between 2007 and 2014. Early euro area evidence suggests comparable numbers. ECB researchers in Andrade and co-authors (2016) find that during the period when APP reduced the ten-year equivalent government supply in the euro area by 4.5 percent of GDP, euro area treasuries increased it by around 1.9 percent. So they could have offset around 40 percent of the impact. This requires further monitoring, and points to the importance of co-ordination with national treasuries.

I would also like to use this opportunity to draw your attention to ongoing modelling work at the ECB. We are working to incorporate financial frictions and an effective asset purchase programme into our euro area wide structural macroeconomic model, the New Area-Wide Model (Coenen and co-authors, 2017). Similar efforts apply to the New Multi-Country Model that is now being developed and includes a more granular treatment of the financial sector. The New Area-

Wide Model aims to take into account the importance of bank-based financing in the euro area as well as the importance of open economy considerations. The estimated model finds a relevant role for both financial imperfections and shocks emanating from the financial sector in explaining business cycle fluctuations and propagation in the euro area. The APP is effective in the framework, because the central bank can temporarily improve the balance sheet constraints of financial intermediaries, which then leads to better credit conditions, improving the economic outlook and raising the inflation rate. The ensuing lower term premium, furthermore, depreciates the exchange rate to satisfy an arbitrage condition between the local and foreign long-term sovereign debt markets. This exchange rate channel increases consumer prices, with marginal impact on output, not unlike those identified by Dedola and co-authors (2017). This new version of the framework will continue to help us form a consistent view about conjunctural developments and will be applied to analyse the quantitative impact of alternative policy scenarios.

So what have I learned about QE programmes and specifically the APP? A key question is how large a balance sheet the ECB should maintain in the long-term. This issue is broader than just the question about a possible "permanent QE" addressed in the paper by Harrison (2017) from the perspective of its contribution, to a reduction in the frequency of zero lower bound episodes. He concludes that the contribution would be small and therefore dismisses the case for what he calls "permanent QE".

The debate about the size of the central banks' balance sheets however, refers mainly to other objectives. In the 2016 Jackson Hole Symposium, two papers by Duffie and Krishnamurthy and by Greenwood, Hanson and Stein,[4]

See Duffie, D. and A. Krishnamurthy, (2016), "Pass-through efficiency in the FED's new monetary policy setting", presented at the 2016 Jackson Hole Symposium of the Federal Reserve Bank of Kansas City and Greenwood, R., S.G. Hanson and J. C. Stein, (2016), "The Federal Reserve's balance sheet as a financial tool", presented at the 2016 Jackson Hole Symposium of the Federal Reserve Bank of Kansas City.

stressed the importance of the U.S. Federal Reserve's Reverse Repurchase agreement Programme (RRP) through which it repos against cash securities on its balance sheet. The first group of authors advocate the continued use of this programme in order to involve more counterparties and to affect several interest rates beyond the overnight rate, thereby contributing to a better transmission of monetary policy. The decline in size and importance of the unsecured interbank money market affects the pass-through to other maturities.

A second set of objectives relates to central banks keeping a large balance sheet as a way to steer the supply of safe assets, particularly through the same RPP, to create very short-term safe assets. This fosters greater financial stability by avoiding unsuccessful private sector attempts in fulfilling that role and amplifying risks in financial markets as seen before the crisis. This is an important issue as the attempt to create safer private assets was behind the expansion of a shadow banking sector that played a significant role in the crisis.[5]

See Constâncio, V., (2017), "The future of monetary policy frameworks".

Finally, a third objective was recently expressed by the President of the New York FED[6]

See William, D., (2017), "The U.S. Economic Outlook and the Implications for Monetary Policy", speech on 7 September 2017 available in.

that it would be justified to keep a balance sheet with a sufficient size in order to enable the use of bank reserves' remuneration and the RRP as ways to steer short-term rates, instead of using open market operations only as was previously the case.

In the euro area, some similarities regarding the transmission via the unsecured interbank market may justify in the future, reflections on these new aspects of conducting monetary policy. Meanwhile, the predominantly bank-based nature of the European financial system allows us the possibility of going back to a "leaner" balance sheet, with lending to banks remaining the main channel for managing liquidity and steering short-term interest rates. Asset purchase programmes would be in any case a potential tool to be applied again in future contingencies, if necessary.

Negative interest rates

The ECB was the first major central bank to introduce negative policy rates. The rate of the ECB's deposit facility was lowered to –10bps in June 2014 and reached –0.40bps in March 2016. Negative rates stimulate the economy via the usual channels: they lower *real* yields and bank lending rates at various maturities, encouraging borrowing and real activity. In this context, negative policy rates have been an effective tool in the euro area, lowering not only short-term rates but also rates at longer maturities via expectations. I agree with both keynote speakers in our workshop that the transmission of rate cuts in negative territory may be different from conventional rate cuts. Let me briefly outline why.

While banks enjoy valuation gains on securities they hold on their balance sheet, as with any other rate cut, they may face a squeeze in their interest rate margin in the future for their loans, new and/or old, depending on whether the loans are fixed or floating rates. Such a loan margin squeeze may occur because a significant part of banks' funding costs is unlikely to fully reflect the central bank's move to negative rates: for a variety of reasons, banks' retail deposits are essentially floored at zero, as was also emphasised in the keynote speech by Eggertsson. If banks cannot adjust the rates they pay their customers for their deposits as a reaction to falling loan rates, their profitability could decrease, leading to lower bank equity which in turn, could lead to lower lending, potentially hindering the pass-through of policy. This mechanism points to the importance of banks' balance sheet structures for the transmission of negative rates: banks' with large securities holdings and relatively small retail deposit shares are more likely to benefit from negative rates than are banks with relatively small securities holdings and a higher retail deposit share.

Work conducted by ECB economists, Demiralp and co-authors (2017), explores this exact point. They identify banks' exposure to negative rates by their exposure to excess liquidity conditional on each banks' business model and find that banks have reacted to negative interest rates by granting more loans, reducing their reliance on wholesale funding and by acquiring non-domestic government bonds. Interestingly, banks classified as investment banks, i.e. those with largest securities holdings and smallest retail deposit share are the one most active in granting more loans. Overall, Demiralp and co-authors (2017) conclude that negative rates have led to a more expansionary stance of monetary policy as well as an empowerment of the ECB's APP, as banks' desire to adjust their balance sheets has contributed to lowering interest rates in financial markets.

Similar findings were reported by Basten and Mariathasan at this workshop in their paper on the impact of negative rates on banks in Switzerland. The Swiss National Bank (SNB) introduced negative rates in December 2014 and lowered rates to a record low of –0.75bps in January 2015. The paper by Basten and Mariathasan (2016) is a very welcome contribution to the emerging literature on the effect of negative rates in that it uses a very detailed dataset, notably comprising supervisory data and a convincing identification, constructed around the institutional specificities of the implementation of negative rates in Switzerland. This puts the authors in a position to answer a variety of questions regarding the impact of negative rates on Swiss banks. Just like Demiralp and co-authors (2017), they find that negative rates have been overall expansionary. With the help of their comprehensive dataset, they are able to point out that banks have been able to more than offset the compression of their interest rate margin by lending to customers

formerly not served. This expansion is in line with the predictions of the risk taking channel of monetary policy and in line with what Heider and co-authors (2017) find in the case of the syndicated loan market in the euro area.

At the same time, I do not challenge the view that there can be an effective lower bound, or a reversal rate, as it was called by Brunnermeier in his work with Koby, under which an interest rate cut would turn contractionary. However, where this lower-bound lies is still unknown, we have every reason to believe that it is still below the current rates in the euro area or in Switzerland. Once this lower bound is reached, however, perverse outcomes may materialise because the interest rate cut does not reach retail bank deposit holders as Eggertson pointed out. I share these concerns: negative rates are a tool that needs to be closely monitored. We are happy with the experience and we think the evidence accumulated so far points to the negative side effects being dominated by the positive aspects of the policy, which means that this is a new instrument in the central banks' toolkit to be used in exceptional circumstances.

Conclusions

Let me conclude. The non-standard measures that the ECB had to use in order to face the challenges of the crisis and the threat of too low inflation have been successful to avoid the worst for the European Monetary Union. From innovative liquidity facilities to asset purchase programmes and negative deposit rates, non-standard measures proved crucial to avoid deflation and foster the economic recovery. We have not yet achieved our main goal of inflation being below but close to 2 percent. We share with other advanced economies the puzzle of wage and prices not responding to strong growth as usual. By keeping a sufficient degree of monetary policy accommodation we can be confident that our goal will eventually be reached, in accordance with our mandate..

I thank the presenters, the discussants, the organisers and the audience for this successful workshop. Non-standard measures are going to be part of our toolkit for some time to come, and some of them might even be deemed standard measures at some point, so I can promise you that we will continue to organise similar events. I am looking forward to seeing further contributions on the ongoing debates, further analysis on the potential costs of non-standard measures and new results related to relevant questions like the impact of non-standard measures on inequality that I recently addressed.[7]

See Constâncio, V., (2017), "Inequality and macroeconomic policies".

I look forward to your future work to foster our understanding of the non-standard times that continue to challenge all of us.

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1 See e.g. Corsetti-Dedola, 2016 for a framework with self-fulfilling sovereign debt crises and Gertler and Kiyotaki, 2016 for a framework with systemic bank runs.

2 See Del Negro, Giannoni, and Patterson, 2015, Gabaix (2016), Garcia-Schmidt and Woodford (2015), McKay, Nakamura and Steinsson (2016), Werning (2015), for example.

3 Their work is related to earlier contributions by Morris and Shin (1998, 2002) and Woodford (2003) and is similar in spirit to Adam and Marcet's work (2011) on "internal" vs "external" rationality.

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