The **SEACEN** Centre

Volume 5 / November 2015

SEACEN FINANCIAL STABILITY JOURNAL

Insights and Thought Leadership on Financial Stability

SEACEN's core membership is comprised of twenty central banks/monetary authorities in the Asia-Pacific region. SEACEN serves its members through its learning programs, research work, and networking and collaboration platforms for capacity building in central banking knowledge. Through its various activities, SEACEN also strives to promote financial stability in the region, especially through maintaining cooperative relationships and the advocacy of good and best practices in financial institution supervision and central bank policy actions. In addition to its 20 members, it has an outreach of 15 other central banks in the Asia-Pacific region, as well as 26 regional and international strategic partners with which SEACEN collaborates in the design and delivery of its learning programs.

Volume 5 / November 2015

SEACEN FINANCIAL STABILITY JOURNAL

Insights and Thought Leadership on Financial Stability

Contents

— — — — — — — — — — — — —

Article Submission Guidelines

The ***SEACEN Financial Stability Journal*** Editorial Board welcomes potential contributions to the ***Journal.*** Articles written for the ***SEACEN Financial Stability Journal*** should focus on providing insights and thought leadership with respect to information and developments relevant and critical to promoting financial stability and related matters, contextualized to the Asia-Pacific region.

- Article drafts should be submitted in 12 point Times Roman font and should be double-spaced, and sent by email to: article@seacen.org.
- The length of draft articles will generally range from 3,000 to 5,000 words (12 to 20 double-spaced typed pages), though treatment of some topics could necessitate longer articles, which would be considered.
- Authors should include a biographical summary at the end of the article. If an article expresses expert opinions, contributors' expert credentials should be apparent.
- Articles will be evaluated by the ***Journal's*** Editorial Board.
- The Chief Editor and Senior Manager, Communications Unit, are available at any time to answer authors' questions, discuss potential articles, review early drafts, or provide other input. Their contact details are as follows:

Mr. Michael Zamorski
Tel: +603-9195 1881
Email: mzamorski@ seacen.org

Ms. Seow Yun Yee
Tel: +603-9195 1832
Email: yunyee@ seacen.org

Letter from the Executive Director

Dear Colleagues and Readers

It is my privilege to introduce Volume Five of the *SEACEN Financial Stability Journal*, which was launched two years ago during The South East Asian Central Banks Research and Training Centre's 30th Anniversary celebration.

Throughout its long and distinguished history, SEACEN has been dedicated to meeting the needs of our member central banks and monetary authorities in a proactive and practical way. SEACEN's constituents and stakeholders have provided very encouraging feedback on the *Journal* and we continue to build readership. We will continue to provide a high quality forum for central bankers/monetary authorities, financial institutions regulators and policymakers to provide thought leadership on policy matters and technical issues related to promoting financial stability in the Asia Pacific region.

Four excellent articles have been selected for inclusion in this edition of the *Journal*, covering a broad range of financial stability related matters. We are honored that Mr. Yves Mersch, a member of the European Central Bank's Executive Board, has provided an article discussing the ECB's experience with respect to policy complementaries and potential conflicts between non-standard monetary policy actions and financial stability measures and objectives. Dr. Herbert Poenisch, formerly with the Bank for International Settlements, has contributed an article on actions and strategies taken or contemplated to encourage China's trading and investment partners to boost the use of the Chinese Renminbi. An article from David Farelius, Adviser to the Sveriges Riksbank, discusses cross-border cooperation on macroprudential policy implementation in the Nordic-Baltic area. That region has a high level of financial integration, similar to that found in many parts of the Asia Pacific region. Additionally, an article by SEACEN Advisor Michael Zamorski discusses bank supervision lessons learned from the U.S./Eurozone Crisis of 2007-2008, focusing on key qualitative considerations in achieving an effective supervisory process that detects and curtails unsafe and unsound practices at their incipient stages.

I would like to take this opportunity to thank our governing bodies – the SEACEN Board of Governors and the SEACEN Executive Committee – for their strong support of the *Journal*, and also to our SEACEN members and the Editorial Board for their valuable contributions to the success of the *Journal*.

Dr. Hans Genberg
Executive Director

Disclaimer:

The content and views expressed in the SEACEN Financial Stability Journal are solely the responsibility of the authors, and do not reflect the official views, policies or positions of The South East Asian Central Banks (SEACEN) Research and Training Centre or its member central banks and monetary authorities.

Non-Conventional Monetary Policy and Its Interplay with Financial Stability[1]

Yves Mersch

From December 2011 onwards, inflation in the Euro area began a sustained downward drift, reaching its trough in January 2015. Responding to this situation would be challenging for monetary policy in any circumstances, but was made especially difficult because at that time, nominal interest rates were already very low. In this context, we have taken what, at face value, may appear to be a series of very unconventional measures – forward guidance, ABS purchases, sovereign bond purchases, to name but a few.

In this article, I argue that, while these non-conventional monetary policy measures have been effective in fighting deflationary pressures, they must, however, remain exceptional and time-bound. The reason is that a prolonged period of accommodative monetary policy might otherwise have unintended effects on financial stability. I also argue in this article that the division of labor between policy makers must be kept clear. Monetary policy should focus on price stability. Macroprudential policy should focus on financial stability.

1. The ECB's Recent Non-conventional Monetary Policies Aimed at Responding to Low Inflation

Albeit the European Central Bank (ECB) has taken a number of non-conventional measures in the wake of the financial crisis, the objective of these measures has remained thoroughly conventional: it is to secure medium-term price stability. In fact those measures fit together as a coherent package that reinforces our traditional monetary policy strategy of steering inflation developments largely through the bank lending channel. This package has three parts.

1.1 Forward Guidance

The first part has been measures to increase the influence of our interest rate policy over the shape of the yield curve – especially the longer-term maturities that have the strongest link to loan pricing in the real economy. As the inflation outlook was deteriorating, we both reduced our main refinancing rate to the lower bound and introduced measures to augment the impact of those very low short-term rates on longer-term rates.

This has notably included steering downwards expectations about the expected path of short-term rates. Indeed, when facing a Zero Lower Bound on its nominal policy rate, a central bank can still affect current allocations by committing to future monetary stimulus, as emphasized by Eggertsson and Woodford (2003). In the aftermath of the Great Recession, the ECB, along with several other central banks, started to implement such forward guidance policies. Such policies have been effective in lowering expected future short-term interest rates, and have helped further flatten

the yield curve, as illustrated by e.g., Swansson and Williams (2014). Overall, this has measurably increased the traction of our interest rate policy on relevant market rates.

This impact on future interest rates does not guarantee that forward guidance policies were effectively expansionary, though. As stressed by Campbell et al. (2012), such reaction of expected future interest rates can in effect be associated with two different types of forward guidance. On the one hand, it can convey information on commitment to future expansionary policy. One the other hand, economic agents may misinterpret the measure as an indication that the central banks are pessimistic about macroeconomic fundamentals.[2] It is one thing for the central bank to reduce market rates at maturities that are pertinent to loan pricing; it is another for financial intermediaries to reflect those lower rates in the price and availability of credit for firms and households, if they are pessimistic about the macroeconomic outlook.

By mid-2014, we were still not seeing movements in the yield curve being reflected in the actual borrowing conditions faced by firms and households across the Euro area. This meant that the considerable easing through lower rates and forward guidance was not having the impact we would normally expect. In particular, viable firms were still struggling to access finance in parts of the Euro area. The percentage of financially constrained but viable Small and Medium Enterprises (SMEs) – defined as those with positive turnover in the last six months seeking a bank loan – was estimated to have varied from around 1% in Germany and Austria to a quarter of the SME population in Spain and as much as a third in Portugal.

1.2 Credit Easing

It is in this context, between June and September 2014, that we launched our credit easing package, in order to strengthen banks' incentives to improve the availability and lower the price of credit. The package took the form of targeted long-term refinancing operations (TLTROs), which provided cheap long-term funding to banks on the condition that they expand loans to the real economy, and thereby help restore a more normal supply and pricing of credit.

In parallel, the ECB gave its full technical and operational support to the Comprehensive Assessment of bank balance sheets – the supervisory exercise aimed at forcing banks to acknowledge non-performing exposures and to raise provisions and capital where needed. This exercise was powerful in the sense that it accelerated what had until that point been a slow process of balance sheet repair in the Euro area. In the run up to the Comprehensive Assessment, banks strengthened their capital by over €200 billion. In this way, the new monetary policy impulse coming from our credit easing package coincided with a banking sector in a stronger position to transmit it.

As the credit easing program gathered steam, this is indeed what happened. The ECB's bank lending survey confirmed that competition for good credit among banks increased after the TLTRO. Banks squeezed their margins and reduced their lending rates. Lower rates in turn created more net demand for borrowing. And banks began to

search for the "next tier" of borrowers, leading to a gradual and more pervasive easing of credit standards for non-financial corporations. Importantly, this process was driven predominantly by the very banks, which had drawn on the TLTROs and operate in both stressed and non-stressed countries. As a result, the credit easing package led to a convergence in the cost of borrowing across Euro area countries. At that time, the dispersion in average lending rates across Euro area countries was reduced to levels unseen since the start of the sovereign debt crisis.

However, as these measures were coming into effect, the Euro area was hit, like all advanced economies, with a further downward shock to inflation emanating from the sharp fall in global oil prices that began in late summer 2014. Oil price development added further disinflationary pressures, feeding into core inflation. The result was that, by January 2015, the Euro area was experiencing negative headline inflation rates and a generalized decline in measures of actual and expected inflation. In normal times, my preference would naturally have been to look through such a development provided that it did not feed into medium-term expectations. Indeed, inflation also fell into negative territory due to lower oil prices in 2009, and we had not reacted back then because we were confident that the fall in inflation would be transitory. The conditions we faced in January 2015, however, gave us no such comfort. There were two main reasons why we feared that, this time around, the observed disinflationary pressures were not temporary in nature.

First, while the fluctuations in inflation in the second half of the year were clearly being driven by supply factors, there were strong signs that the trend was being driven by weak aggregate demand. This was visible both at the macro level in a still wide output gap and a declining rate of core inflation; and at the micro level in subdued negotiated wages and low pricing power among firms. In other words, we were not merely facing a downward shock to prices. We were also facing a downward shock to inflation dynamics, a sustained adverse development. Second, and this for me was decisive, we witnessed a loosening in the anchoring of inflation expectations even at maturities and at horizons that we would normally expect to be more resilient to short-term inflation dynamics. This was in stark contrast to 2009, when inflation expectations hardly moved, even at the short end.

Our analyses in early 2015 were showing that the persistence of low inflation across a range of statistical metrics was higher than in 2009. Also, inflation expectations had become, at all horizons, less well anchored to our objective and more sensitive to realized inflation. Measures of core inflation, had thus, become less sticky, implying a higher risk that low realized and expected inflation would become entrenched in wage setting behavior.

1.3 Outright Asset Purchases

It was in this context that we launched the third part of our response, the ultima ratio decision to purchase assets, including public ones, as another tool of monetary policy. It was absolutely crucial at that time that we lifted and re-anchored inflation

expectations and warded off these potential second round effects. This is not only because stable inflation expectations are vital for medium-term price stability. It is also because, with interest rates at the effective lower bound, any fall in inflation expectations implies a rise in real interest rates and can counteract the credit easing we were trying to engineer. In fact, by January 2015, expected real rates had started rising – increasing by almost half a percentage point in the previous few months alone. The cost of deflation protection had also gone up by 185 basis points between 2 December 2014 and 9 January 2015, showing that investors saw a material risk that inflation could fall further. We had to react pre-emptively and decisively. At the lower bound, we had only one single option: large-scale asset purchases become the only tool to reinforce the monetary policy impulse in a way that had an immediate and meaningful impact on expectations. While our switch to asset purchases had already begun in September with the launch of our private asset purchase program, it was clear by January 2015 that interventions in those specific markets alone would not be sufficient to achieve the required impact. To firmly lift and re-anchor inflation expectations, we needed to alter both the composition of our program – to broaden the channels through which it would raise future inflation and hence affect expectations today – and the size – so that the monetary policy impulse through each of those channels would be stronger. The only markets in which we could achieve this dual effect were public sector assets.

Our public sector purchase program works through three main transmission channels. The first transmission channel is an asset valuation channel. The purchase of public sector assets creates strong direct price effects in markets that are key for loan dynamics (see Middeldorp, 2015). In particular, for the corporate loans that are the closest substitutes to those assets, nominal rates are now extremely low across nearly all Euro area countries. As the level of nominal rates goes down, real rates decrease, which stimulate private investment. The second channel goes through portfolio rebalancing effects, as investors are displaced across asset classes – affecting risk preferences – and across jurisdictions – affecting the exchange rate. This process has multiple transmission channels to the real economy but one key channel goes through banks: on the liability side, portfolio rebalancing reduces the cost of market debt for banks, and on the asset side, it increases the opportunity cost of holding henceforth still risk-free securities, such as government bonds, over extending loans to the real economy. Finally, asset purchases have a strong signalling effect. They send a powerful signal that we will not allow price stability to be jeopardized, which helps re-anchor inflation expectations and lower real interest rates. They also signal that liquidity will keep expanding, which supports a flattening of the term structure and further supports the easing of real interest rates and the exchange rate. The effectiveness of these signalling effects is predicated on the implementation of our program in full, as we have communicated – that is, we will maintain the pace and volume of our intervention until we see a sustained return of inflation towards a level below but close to 2% over the medium-term.

In all these ways, our asset purchase program therefore represents a continuation and extension of previous measures – it reinforces our credit easing and more generally the bank lending channel. In this sense, I share the view that "quantitative easing"

is something of a misnomer. To be sure, the quantity dimension of large-scale asset purchases matters, but only insofar as it affects prices and hence credit conditions.

While it is clear that in as extraordinary circumstances as the current ones we need new instruments to meet our objective of price stability, there is a clear distinction between monetary policy instruments - which have to adapt to circumstances - and monetary policy objectives. To be clear, what anchors trust in the ECB is that our objective and strategy stay constant, even more so when monetary policy instruments become less conventional. For this reason, I firmly believe that any change in our strategy, such targeting a price level or raising the level of inflation in our definition of price stability, would be counterproductive in the current environment.

2. The ECB's Recent Non-conventional Monetary Policies Have Been Effective

In terms of reaching our objective, our package of measures is already having strong effects – perhaps stronger even than many observers anticipated. The latest data on bank lending show continued improvements in the cost of credit, the availability for credit and the demand for credit. Confidence has also notably improved, with the latest European Commission economic sentiment indicator confirming the pick-up in both consumer and business confidence. And the more confident firms and households feel in the recovery, the more credit should continue to improve.

Crucially, our intervention in January 2015 halted and then reversed the fall in inflation expectations. For example, the 5-year forward 5-year ahead inflation-linked swap rate has risen from its trough of below 1.5% in January to more than 1.8% by May 2015. In turn, our intervention also prevented second round effects through lower wage settlements and higher real debt burdens.

To the extent that a prolonged period of accommodative monetary policy might come with adverse side effects on the stability of the financial sector, I believe that our unconventional monetary policy measures must remain exceptional and time-bound, though. This is because the longer such measures persist, the greater the risks that may come with them. To be clear, this is not a question of trade-offs. We cannot shy away from implementing a policy that ensures price stability on account of potential collateral effects. Nor can we extend the medium-term to horizons that compromise our objective. Yet at the same time, we need to understand and manage those potential collateral effects – and in pursuing our mandate we should attempt, to the extent possible, to minimize them. Where this is not possible, we have a duty to raise awareness so that mitigating or corrective action can be taken by other relevant authorities.

3. Complementarities and Potential Conflicts between Non-standard Monetary Policy Measures and Financial Stability

3.1 Complementarities between Price Stability and Financial Stability Objectives

The ECB's objective of price stability in the medium run is not incompatible with the macroprudential objective of financial stability. In many instances, the two objectives complement each other.

In normal times, during a credit boom, for example, it might be appropriate for monetary authorities to take financial stability into account in its assessment of the appropriate level of interest rates. Indeed, it is well known that most financial crises are "credit booms gone wrong" (e.g., Schularik and Taylor, 2012), and that the recessions that follow such crises are among the deepest (e.g., Claessens et al., 2008, 2011). By raising rates to choke off credit developments before credit booms turn around, the central bank may help prevent financial crises and deep recessions, and avoid the deflationary pressures that typically come along with such deep financial recessions. Symmetrically, lowering rates in a downturn to support funding to the financial sector will safeguard the transmission of monetary policy and hence help achieve price stability in the medium-term. Similarly, the countercyclicality of macroprudential policies can help central banks tame inflation (Angeloni and Faia, 2013) and, in the specific context of a heterogeneous monetary union, country specific countercyclical macroprudential policies might even help the central bank implement a more homogenous monetary policy stance across countries (Brzoza-Brzezina et al., 2013).

The existence of such complementarities is the reason why I am supportive of the "leaning against the wind" argument, in both directions, provided of course that instruments and objectives are consistent.

The complementarities between the price and financial stability objectives have also been made clear during the recent financial crisis. In the Euro area, the high private and government indebtedness and persistent debt overhang, which resulted from the pre-crisis credit booms and governments' responses to the crisis, have reduced the effectiveness of standard monetary policy in the wake of the crisis and, as I explained earlier, forced us to devise and implement novel and non-standard monetary policy measures. Recent studies suggest that those measures had the indirect effect of helping banks repair their balance sheet and improve their capital position, thereby contributing to restoring financial stability. For example, Acharya and Steffen (2014) show that, in the first stage of the crisis, large European banks with low capital ratios borrowed at low rates from the Eurosystem and lent at higher rates to peripheral sovereigns. Those carry trade activities helped those banks replenish their capital without issuing outside equity, at a time when outside equity was expensive for them. A study by Cohen and Scatigna (2014) thus shows that bank capital ratios have increased steadily since the financial crisis and that the bulk of the increase comes from retained earnings.

3.2 Potential Conflicts between Price Stability and Financial Stability Objectives

Non-standard monetary policy can help banks secure funding, restore profitability, and build up capital only to a limited and temporary extent, though. Potentially, there could be a risk of keeping monetary policy too accommodative for too long, even when unemployment rates remain elevated and inflation remain stubbornly low. Part of the reason comes from the fact that many Euro area economies are in a balance sheet recession. Balance sheet recessions differ in important ways from standard business cycle recessions.

In a balance sheet recession, the weak growth and inflation are not just, or even primarily, a question of deficient demand. They cannot be fully addressed through accommodative monetary policy, be it standard or not. Recent research has, indeed, found that the relationship between the degree of monetary accommodation during recessions and the strength of the recovery is weaker when banks' financial intermediation function is impaired (Bech et al., 2014). Non-standard monetary policies do have an impact on asset prices, markets, and bank capital; but they also have limits and diminishing returns. Term and risk premia can only be compressed up to a point, and in recent years, they have already reached or approached historical lows. One risk is that, over time, monetary policy loses traction while its side effects proliferate.

Financial booms typically leave in their wake not only debt overhang, but also too much capital and labor in the wrong sectors. For example, a recent study by Foster et al. (2014) shows evidence that during the recent financial recession, there was less factor reallocation across producers than during previous, normal recessions. The usual "cleansing" effect of recessions did not take place this time around. To return to a trajectory of sustained growth, Euro area countries, therefore, have not only to deleverage but also to reallocate labor and capital more efficiently across sectors, both within and across national borders. In this context, one potential adverse side effect of keeping monetary policy accommodative for too long is that it may encourage banks to ever-green their bad debts and postpone the adjustment of their balance sheets, when they should instead reallocate credit to the most productive sectors. Such wrong forms of risk-taking could, in turn, harm bank profitability down the road, and ultimately undo the initial beneficial effects of monetary policy on banks' financial health. I would argue that we have not arrived at this stage yet. So far, there is no evidence that low interest rates are contributing to leverage-driven financial imbalances in the Euro area. Indeed, the most serious financial stability risks tend to be associated with excessive developments in bank credit, and there are no signs of that in the Euro area on average today.

Excessive monetary accommodation may also find its way into asset prices and leverage rather than goods and services price inflation. This is, for example, what happened in the run-up to the crisis, and could well happen again. Indeed, while unemployment rates in the Euro area have on average stayed high despite monetary easing, stock markets have recovered. If, for example, a stock price bubble were to

emerge and inflation to remain low, then raising rates to combat that financial stability risk would run contrary to our price stability objective. On the other hand, if inflation were to rise but banks in the Euro area were still repairing their balance sheets, then raising rates could harm bank profitability and have damaging consequences for banks' health.

4. The Division of Labour between Policy Makers is Clear: Monetary Policy Should Focus on Price Stability; Macro-Prudential Policy Should Focus on Financial Stability

To provide a framework for how to think about the potential conflicts between the objectives of price and financial stability, I find it useful to invoke the well-known "Tinbergen Rule," which states that a macroeconomic authority must have at least as many instruments as it has objectives.

Given the hierarchical nature of the ECB's mandate, if we were to face such conflicts, where price stability and financial stability point in different directions for the path of interest rates, we would have to put price stability first. This is our legal obligation. And from an economic point of view, in circumstances where financial stability effectively becomes a distinct objective from price stability, then the Tinbergen Rule implies there has to be instruments other than interest rates to achieve it. Those instruments are of course macroprudential policies.

Following the introduction of the European Capital Requirement Directive (CRDIV), we now have a wide range of new tools available to the competent authorities in the Euro area. With the creation of the Single Supervisory Mechanism (SSM), a stronger framework has also been put in place to coordinate those tools and prevent inaction biases at the national level. Should we see any indications that low interest rates are leading to financial imbalances, the first line of defence is for the competent authorities to make full use of these new instruments.

Yet I am also sympathetic to the view expressed by the Bank for International Settlements (BIS) that we need to approach macroprudential with "a mix of ambition and humility" – that is, we need to be ambitious in using the new tools we have, but we also need to be humble in recognizing their limitations. The Eurosystem recently made an important effort to develop core conceptual frameworks, models and tools in order to improve macroprudential supervision in the EU (ESCB Heads of Research (2014)).[3] Despite the progress made, though, research has still too little to say about the channels through which macroprudential policies work and the magnitude of their effects (see BCBS (2010)). Moreover, as most macroprudential tools are in fact microprudential, conflicts of competence between respective authorities could occur. This all the more that the degree of Europeanization of micro- and macroprudential competencies is not the same – not to speak of the competence pooling of sovereignty in monetary policy. And in any event, macroprudential tools tend to be more effective in building resilience against financial shocks than preventing those shocks in the first

place. For this reason, it would make sense in my view for us to remain fully committed to developing and implementing effective macroprudential policies, but at the same time not to blindly pin all our hopes on them.

Ultimately, the best defence against any conflicts between financial instability and unconventional monetary policy is to make sure that the latter policy does not last longer than strictly necessary. Monetary accommodation can help buy time to implement the necessary balance sheet repair and structural reforms. But it cannot substitute for such measures. This means that we need to maintain the pace and volume of our interventions, as we have communicated, so that inflation rises back towards 2% as quickly as possible and monetary policy can begin to normalize. But it also means something more: if interest rates are low because the natural rate is low, then for interest rates to rise back to more normal levels, the natural rate will have to rise as well. To the extent that a low natural rate reflects weak investment demand caused by low productivity growth, this may only be possible in a context of structural reforms aimed at boosting supply capacity.

5. Conclusion

The downward price pressures over recent years have required the ECB to act forcefully and repeatedly to fulfil its mandate. This culminated in January 2015 with our decision to expand our asset purchase program, in order to stave off deflationary risks and stop the fall of inflation expectations. In doing so, we have sent a strong signal that we will safeguard price stability no matter what. This is our mandate as enshrined in the Treaty. And although our instruments have changed; our conviction and mission have not.

— — — — — — — — — — — — — — — —

Yves Mersch has been a member of the European Central Bank's Executive Board since December 2012. He has also served as the Governor of the Central Bank of Luxembourg since the bank's formation in 1998. From 1989 to 1998, he was the Director of the Treasury of Luxembourg and a Personal Representative of the Minister of Finance during the negotiation of the Maastricht Treaty. He was elected Co-Chair of the Financial Stability Board's Regional Consultative Group for Europe from 2011-2012 and was also President of the Fondation de la Banque centrale du Luxembourg (BCL's Foundation) which promotes research and higher education in the BCL's fields of activity during 2011-12.

Endnotes

1. This article builds upon Mersch (2015).

2. For example, Andrade et al. (2015) show that forward guidance announcements coincided with an historical evolution of disagreement among professional forecasters on future short-term interest rates, inflation and consumption which implies that agents had different interpretation of the nature of such policy.

3. This effort took place within Eurosystem's Macro-prudential Research Network (MaRS); see https://www.ecb.europa.eu/pub/economic-research/research-networks/html/researcher_mars.en.html. MaRS' fundamental research sought to integrate characterizations of widespread financial instability into the macroeconomic models that central banks and other policy authorities use for analyzing economic developments. MaRs developed a series of theoretical and empirical models (see, e.g., Clerc et al. (2015)).

References

Acharya, V. and S. Steffen, (2015), "The "Greatest" Carry Trade Ever? Understanding Eurozone Bank Risks," *Journal of Financial Economics*, Volume 115, Issue 2, February, pp. 215–236.

Andrade, P.; G. Gaballo; E. Mengus and B. Mojon, (2015), "Forward Guidance and Heterogeneous Beliefs," Mimeo, Banque de France.

Angeloni, I. and E. Faia, (2013), "Capital Regulation and Monetary Policy with Fragile Banks," *Journal of Monetary Economics*, 60(3).

Basel Committee of Banking Supervision (BCBS), (2010), "An Assessment of the Long-term Economic Impact of Stronger Capital and Liquidity Requirements," August.

Bech, M.; L. Gambacorta and E. Kharroubi, (2012), "Monetary Policy in a Downturn: Are Financial Crises Special?" *BIS Working Papers,* No. 388, September.

Brzoza-Brzezina, M.; M. Kolasa and K. Makarski, (2013), "Macro-prudential Policy Instruments and Economic Imbalances in the Euro Area," Mimeo, National Bank of Poland.

Campbell, J.; C. Evans; J. Fisher and A. Justiniano, (2012), "Macroeconomic Effects of Federal Reserve Forward Guidance," *Brookings Papers on Economic Activity*, 44, pp. 1-80.

Claessens, S.; A. Kose and M. Terrones, (2008), "How Do Business and Financial Cycles Interact?" *IMF Working Paper,* No. WP/11/88.

Claessens, S.; A. Kose and M. Terrones, (2011), "What Happens During Recessions, Crunches and Busts?" *IMF Working Paper,* No. WP/08/274.

Clerc, L.; A. Derviz; C. Mendicino; S. Moyen; K. Nikolov; L. Stracca; J. Suarez and A. Vardoulakis, (2015), "Capital Regulation in a Macroeconomic Model with Three Layers of Default," *International Journal of Central Banking*, Vol. 11(3).

Cohen, B. and M. Scatigna, (2014), "Banks and Capital Requirements: Channels of Adjustment," *BIS Working Papers,* No. 443, March.

Eggertsson, G. and M. Woodford, (2003), "The Zero Bound on Interest Rates and Optimal Monetary Policy," *Brookings Papers on Economic Activity*, 34, pp. 139-235.

ESCB Heads of Research, (2014), "Report on the Macro-prudential Research Network (MaRS)," Available at: https://www.ecb.europa.eu/pub/pdf/other/macroprudentialresearchnetworkreport201406en.pdf?2a521ac0f9e68f344b92bacf35c91b70

Foster, L.; C. Grim and J. Haltiwanger, (2013), "Reallocation in the Great Recession: Cleansing or Not?" *US Census Bureau Center for Economic Studies Paper,* No. CES-WP-13-42.

Mersch, Y., (2015), "Speech at the Swedbank Economic Outlook Seminar," May.

Middeldorp, M., (2015), "Very Much Appreciated: ECB QE Had a Big Impact on Asset Prices, Even Before It Was Officially Announced," *Bank Underground*, Bank of England, August.

Schularick, M. and A. Taylor, (2012), "Credit Booms Gone Bust: Monetary Policy, Leverage Cycles, and Financial Crises, 1870-200," *American Economic Review*, 102, April, pp. 1029-1061.

Swansson, E. and J. Williams, (2014), "Measuring the Effect of the Zero Lower Bound on Medium- and Long-term Interest Rates," *American Economic Review*, 104, pp. 3155-85.

Emergence of a 'Renminbi Zone'[1]

Herbert Poenisch

On 11 August 2015, China reached a 'coming of age' in exchange rate terms. It has taken a major step towards becoming a global currency by leaving the USD zone[2] and becoming a global currency in its own right. From then onwards, the Renminbi (RMB) exchange rate will be determined by market forces with some intervention by the People's Bank of China (PBoC) in line with its exchange rate target, defined as an undisclosed basket of currencies. The reference exchange rate is fixed in Shanghai but other primary trading centers continue to function offshore. This new regime has caused a dilemma for Asia and other countries where China is already the major trading partner, either continue following the USD, switch to the RMB or risk falling between two chairs.

By end 2014, China had become the major trading partner for some 30 big countries as diverse as Brazil, Iran, Australia, South Africa, Pakistan, Malaysia, India, Indonesia, Sudan (see Tables 1 and 2 below)[3] but also for smaller countries, such as Tajikistan, Cambodia, Somalia, Uruguay, etc. These countries may need to adjust their exchange rate policy to reflect these new realities. If a number of countries adjust their exchange rate policy, pegging to RMB as the reference currency, using the term 'RMB zone' might be justified, similarly to historical examples.

This article will cover historical currency zones and the current classification of exchange regimes by the International Monetary Fund (IMF). The IMF distinguishes hard pegs and soft pegs and various exchange rate anchors. Assuming that the RMB will serve as the new reference currency, partner countries will need to explore choices of exchange rate regimes, ranging from a soft peg to the RMB to a full currency board.

This has implications for a country's monetary policy, depending on the extent of pegging to the RMB. Smaller countries will be able to import the credibility and monetary stability of the RMB. At the same time, they will have to surrender part of their monetary autonomy to China without having a seat on the Monetary Policy Committee of the PBoC.

The choice of an exchange rate regime will determine the composition of countries' foreign currency reserves, ranging from a small percentage to 100% held in RMB. These foreign exchange reserves will need to be held in RMB denominated securities, either offshore RMB (dim sum) or onshore RMB (panda). The challenge for China will be to create a deep and liquid RMB debt securities market and open access to foreign central banks.

Finally, RMB liquidity should be available for intervention in the foreign exchange markets if smaller currencies come under pressure. The more than 30 swap agreements between the PBoC and central banks from all over the world will not only

secure stable trade of goods and services but also be useful for intervention purposes. It will also be argued that foreign central banks should have access to the domestic RMB money market.

Finally, thoughts will given on how to move the 'RMB zone' forward. Will China be the driving force with a design for countries to join this zone or will each country decide unilaterally to peg to RMB and hold RMB foreign exchange reserves?

The following Tables 1 and 2 show the dynamic development of foreign trade with selected countries, making China their major trading partner by end 2014.

Table 1
Share of China in Import of 12 Countries
in Percent

NN	Countries	Years		
		2005	2010	2014
1	Australia	13.68	18.75	20.54
2	Brazil	7.28	14.09	16.3
3	India	7.1	11.78	12.66
4	Indonesia	10.13	15.06	17.19
5	Iran, Islamic Republic of	6.2	8.63	27.78
6	Kazakhstan	7.2	16.75	29.04
7	Malaysia	11.6	12.55	16.92
8	Pakistan	9.24	17.51	24.72
9	Russian Federation	5.57	5.82	5.94
10	South Africa	9.09	13.91	15.52
11	Sudan	20.67	n/a	21.81
12	United States	15.0	19.46	19.9

Source: Direction of Trade Statistics (DOTS), IMF, 2005-2014.

Table 2
Share of China in Export of 12 Countries
In Percent

NN	Countries	Years		
		2005	2010	2014
1	Australia	11.49	25.09	33.68
2	Brazil	5.77	15.25	18.04
3	India	6.59	7.86	4.17
4	Indonesia	7.78	9.95	9.99
5	Iran, Islamic Republic of	11.2	16.8	28.91
6	Kazakhstan	8.7	17.77	15.89
7	Malaysia	6.6	12.53	12.04
8	Pakistan	2.71	7.39	9.28
9	Russian Federation	0.58	2.17	1.75
10	South Africa	2.67	8.89	9.54
11	Sudan	71.04	n/a	26.36
12	United States	4.63	7.19	7.64

Source: Direction of Trade Statistics (DOTS), IMF, 2005-2014.

1. Historical Currency Areas and Choice of Exchange Rate Regime

The modern historical examples include the Sterling bloc, the Zone Franc, the USD zone, the Common currency area of the South African Rand, and more recently, the Eurozone. As the Sterling bloc and the Zone Franc are closely linked with the remnants of colonialism, they will not be elaborated here; the other ones are based on economic realities, close trade, investment as well as financial links.

Whereas the USD zone has emerged despite the benign neglect of the US authorities in the wake of the collapse of the Bretton Woods System,[4] the Common currency area of the Rand is a 'designed' currency area with lender of last resort facilities. The emerging Eurozone is somewhere in between, as it is officially recognized that third countries with close links or even membership of the EU are welcomed to seek a currency arrangement with the Euro, whereas other countries are adopting the Euro as reference currency at their own risk, not welcomed by the European Central Bank.[5]

Linking one's currency to a major currency area was driven by the desire to simplify trade denomination and clearing, and to reduce the impact of exchange rate volatility and other shocks on domestic monetary policy and thus on the overall economy. If the major currency area encourages such a link, its authorities might offer lender of last resort facilities to allow the smaller partner to continue trading at the existing peg during periods of market stress.[6]

Starting from theoretical exchange rate possibilities, countries can either float or peg their currency to a reference currency. Under the present international financial architecture as the successor to the Bretton Woods system, most trades were denominated and settled in USD and many currencies continued to peg to the USD. When the EUR was introduced in 1999, it replaced the shares of various Eurozone currencies, but did not encroach on the USD share.

Now, however, countries with strong trade links with China and recipients of Chinese FDI would benefit from seeking an exchange arrangement with RMB. This could range from pegging to the RMB, either with an adjustable peg or a fixed peg, to a currency board where all foreign assets would be RMB denominated assets.

China can either take a laissez faire attitude to these unilateral decisions, such as the US has done so far, or take a pro-active approach, even including a reform of the international monetary systems towards a multi-polar currency standard by design rather than by default.

Whatever the regime, clarity regarding its construction, as well as the collection and publication of good statistics, should allow the financial markets to understand the arrangements. The IMF Annual Exchange Arrangements and Exchange Restrictions Report goes a long way, but should be supplemented with an assessment by the central bank of the reference currency which other countries are using.[7]

2. Monetary Policy Implications for Pegging Countries

Countries pegging to a currency are importing the credibility and monetary stability of the reference currency. At the same time, they are surrendering their monetary policy autonomy to varying degrees, depending on the firmness of the peg.

If the monetary policy stance of the reference country is too tight compared with the rest of the world (ROW), competitiveness will be impaired and exports to the ROW might suffer. At the same time, imports, particularly of raw materials denominated in USD, will become cheaper, helping to reduce inflationary pressure. Repayment of external debt denominated in ROW currencies will also become cheaper.

If on the other hand, the monetary policy of the reference country is looser than in the ROW, exports will become more competitive, stimulating growth and adding inflationary pressure. On the other hand, repayment of external liabilities in ROW currencies will become more costly.

Pegging to a big currency is like tying oneself to a big ship. In normal times, this ensures a faster ride than under one's own steam, but one might get submerged in rough seas.[8] It has been argued that even in the absence of pegging to RMB, China's monetary policy has had a significant impact on macroeconomic parameters of South East Asian countries, mainly through the international trade channel.[9]

3. Functions of an International Currency

For China and the RMB, the combined four main functions of an international currency would be:[10] i) trade invoicing and payment; ii) foreign exchange trading; iii) issue of domestic portfolio liabilities with access to foreigners; and, iv) investment by non-residents in domestic portfolio liabilities. China's RMB is progressing well on the first function, slowly on the second function[11] but hardly at all on the third and fourth functions. China is a giant in trade, but a dwarf in finance.

In its RMB internationalization strategy, China has encouraged its trading and investment partners to boost the use of the RMB for trade and investment. To ensure smooth trade and investment, the PBoC has concluded RMB/local currency swap agreements with 32 countries (see Table 5).

For the counterparties, a reference currency has to fulfil three official functions: serve as i) anchor currency or part of a currency basket; ii) vehicle for investment of foreign exchange reserves; and, iii) intervention currency. The share in a basket should be based on the share of the reference currency in trade in goods and services as well as inward FDI. There might also be private use of the reference currency, such as holding its cash,[12] holding securities, either domestic or international issues, and putting deposits in reference currency banks.

Presently, the RMB does not and cannot function as an anchor currency. In addition, the spread between onshore and offshore RMB exchange rates continues to exist. Once RMB is accepted as component of the SDR basket,[13] a major hurdle to official pegging to RMB will have been removed. There will be a designated primary trading center for RMB and foreign exchange reserves held in RMB will from then onwards be eligible as official foreign exchange reserves under the IMF definition.[14]

As more countries record a major share of trade and FDI from China, Chinese authorities will need to look at fulfilling the functions of reserve currency before long. The advantages for trading partners of China of using RMB are that the number of exchange rates involved in settling trade will be reduced and the clearing of trade will be simplified by direct settlement between the local currency and RMB, thus allowing significant cost-savings on foreign exchange transactions.[15] In addition, pegging to the RMB will reduce the impact of increased volatility of the USD/RMB exchange rate as witnessed after August 11, 2015.

4. Investing Foreign Exchange Reserves in RMB Instruments

Total world foreign exchange reserves amounted close to USD 12trn at the end of 2014. If we subtract the Chinese foreign exchange reserves of close to USD 4trn, there remain some USD 8trn to be allocated among the major currencies (USD, EUR, JPY, GBP, AUD CND, CHF) and possibly the RMB. Some two-thirds are by now owned by central banks in emerging markets.

Foreign exchange reserves are held to cover possible trade imbalances and short-term debt servicing, and are invested in the major currencies. The USD share has been fairly stable at some 60%, much larger than the US share in world trade.[16] The EUR share at 22% is also larger than the EU share in world trade. This can be explained by a debt denomination and currency zones, i.e., countries using a certain currency for trade with third countries, e.g., Saudi Arabia selling oil to countries other than the US, denominated in USD.

The share of RMB estimated at approximately 1% of world's foreign exchange reserves[17] is thus much lower than China's share in world trade, amounting to some 12% at the end of 2014.

According to BIS securities statistics, total debt securities consist of two components – domestic securities and international securities. International debt securities are issued outside the country either in local currency or foreign currencies. At the end of 2014, international debt securities amounted to USD 22trn, domestic debt securities to USD 59trn totaling USD 81trn.[18] For the world as a whole, there are ample international and domestic debt securities for the investments of the current total foreign exchange reserves of USD 12trn or even USD 30trn, using the wider definition of global official sector assets (including wealth funds, etc.).

At present, central banks from some 60 countries hold and invest approximately USD 100bn of their foreign exchange reserves in RMB.[19] Countries around the world could double this after inclusion of the RMB in the SDR, by investing USD 200bn of their foreign exchange reserves (total USD 8trn), if the following investments in RMB instruments are available.

Adequate investment vehicles can be supplied either as international debt securities, such as offshore RMB (dim sum) bonds or domestic debt securities (panda), either issued by the Chinese government or by quasi government agencies, such as the policy banks. The present foreign holdings of RMB are invested in panda securities and can be liquidated any time.

The current largest available pool of offshore RMB bonds are issued and traded in Hong Kong. At the end of 2014, they amounted close to RMB 400bn, or USD 61bn, thus not enough to accommodate even the present RMB foreign exchange reserves. In addition, there is a valuation problem as an exchange and interest rate

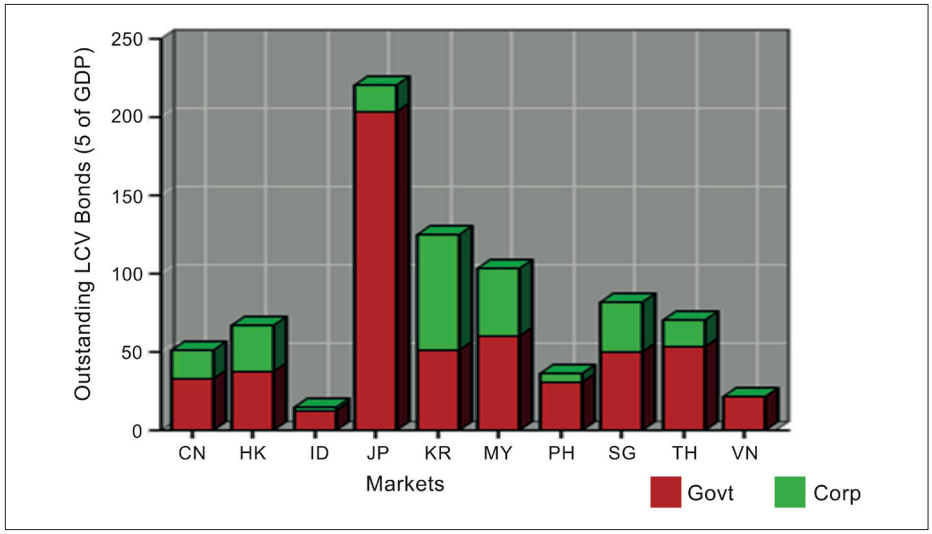
differential between onshore and offshore RMB exists due to the capital controls in China. Are central banks investing in CNY or CHY?

Graph 1
Offshore RMB Bonds Outstanding in Hong Kong (end 2014)

Source: HKMA.[20]

The size of China's domestic bond market denominated in RMB is still small in terms of GDP, however, in absolute terms it is already the 5th largest after the USD, EUR, JPY and GBP denominated domestic bonds.[21]

Graph 2
Size (in % of GDP) and Composition of LCY Bonds in Asia (end 2014)



Source: www.asianbondsonline.org.

The outstanding domestic RMB debt securities at the end of 2014 was RMB 28trn or USD 4.5trn (see Table 3 below). Chinese Government Bonds (CGB) make up 30% of this total. Municipal bonds are expected to increase as a result of the loan to debt swap with local authorities proposed by the Chinese government. On the contrary, PBoC bills have declined as less intervention in the foreign exchange market has reduced the need for sterilization bonds.[22] Overall, the domestic RMB bond market is expected to double by 2020 (see Table 3) and thus will be sufficiently large in absolute terms to accommodate more investment by foreign central banks.

Table 3
Chinese Domestic Bond Market, by Issuer

RMB bn, Year-end

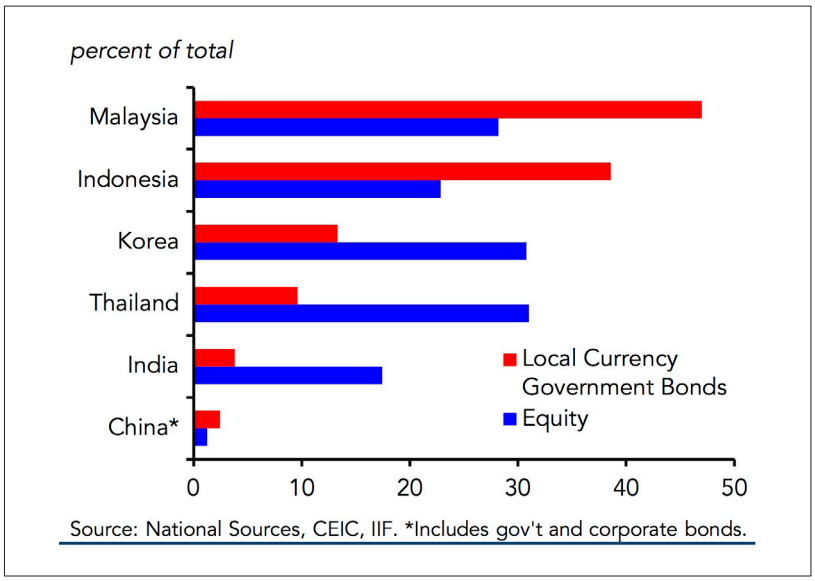
	2010	Percent of Total	2014	Percent of Total	2014-20 CAGR Percent	2020[e]
Treasury (CGB)	5,963	29.6	8,553	29.8	10	15,152
PBOC bills	4,091	20.3	428	1.5	n.a.	0
Municipals	400	2.0	1,162	4.0	35	7,034
Financials	5,827	28.9	11,256	39.2	11	21,420
- Policy Banks	5,160	25.6	9,957	34.7	12	19,653
- CDB Bonds	3,680	18.2	6,266	21.8	12	12,368
Gov-supported	109	0.5	1,103	3.8	10	1,954
Non-financials	2,810	13.9	5,005	17.4	8	7,942
Asset-backed	18	0.0	269	0.9	35	1,628
Others	975	4.8	954	3.3	9	1,600
Total	**20,175**	**100**	**28,730**	**100**	**12**	**56,731**

Notes: "n.a." stands for not applicable. Saving Bonds (electronic) issued by Ministry of Finance are not included as CGBs here, but in the category of Others, as Saving Bonds are different from the Book-entry Treasury Bonds in that they are much smaller in scale, not liquid, and only for retail investors. CDB= China Development Bank.

Source: Guonan Ma and Wang Yao, FGI Working Paper 2015.[23]

The share of foreign holdings of CBG is very small at present, some 1.5% of the total. This compares with 40% of US Treasuries held by foreigners. Other foreign holdings as share of total government bonds are contained in Graph 3.

Graph 3
Foreign Holdings of Domestic Securities



Source: IIF Capital Flows May 2015.[24]

The main problems with the Chinese bond market at present are the fragmentation of regulations and trading platforms. For instance, the yield curve up to one year is under PBoC supervision, whereas the longer maturities are under Ministry of Finance (MoF) supervision. This fragmentation results in market segmentation which hampers market liquidity. As the indicators in Table 4 and Graph 4 show, liquidity measures such as the turnover ratio of major government bond markets is very low in China, compared with the most liquid government bonds, the US Treasuries, Japanese JGB and UK gilts.

Table 4
Turnover Ratio of Major Government Bond Markets

Annual Turnover over Average Outstanding

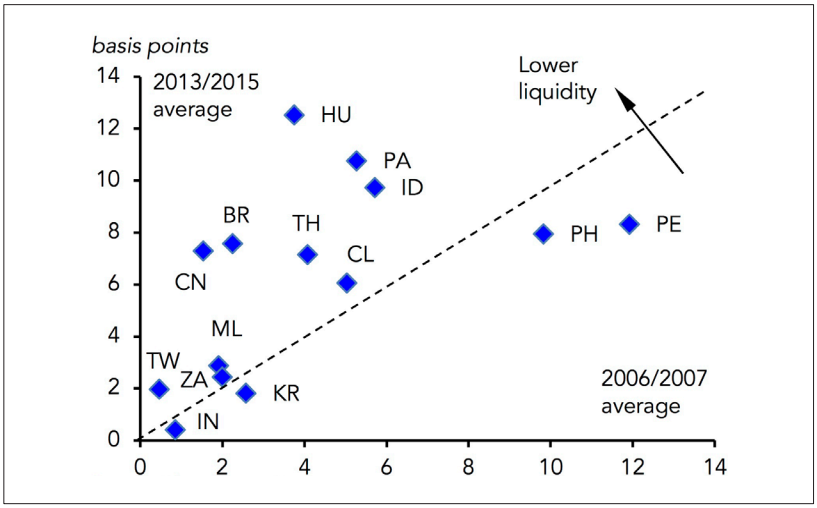
	UST	Gilt	JGB	CGB	CGB incl. Futures	China's Policy Banks	CDB Bond	PBOC Bills
2004	29.7	9.1	5.4	0.2	0.2	0.9	0.9	1.5
2005	30.2	9.1	5.1	0.4	0.4	1.0	1.0	1.8
2006	26.7	8.5	6.6	0.5	0.5	1.3	1.2	1.7
2007	28.5	8.1	8.8	0.6	0.6	1.2	1.0	2.7
2008	24.4	7.6	8.2	0.8	0.8	2.3	1.6	5.9
2009	14.6	6.0	6.1	0.8	0.8	4.4	3.0	3.2
2010	15.3	5.3	5.1	1.4	1.4	4.6	3.9	4.3
2011	14.3	6.5	5.1	1.4	1.4	3.4	2.9	4.0
2012	11.8	5.2	5.5	1.4	1.4	3.2	2.6	4.8
2013	11.4	n.a.	5.4	0.7	0.8	1.6	1.5	1.1
2014	10.0	n.a.	5.9	0.7	0.8	1.7	1.9	0.3

Notes: "n.a." stands for not applicable. JGB = Japanese government bonds; Gilt = UK government bonds; UST = U.S. treasury bonds; CGB = Chinese government bonds, CDB = China Development Bank.

Source: Guonan Ma and Wang Yao, FGI Working Paper 2015.

Measured by bid-ask spreads in the local currency government bond markets, the liquidity situation in the CGB market has deteriorated between 2007 and 2013. It seems that government securities are held to maturity with little secondary market trading.

Graph 4
Bid-ask Spreads for EM 10-yr Local Government Bonds
Changes between 2006/2007 and 2013/2015



Source: IIF Capital flows, May 2015.

Recently, the PBoC has simplified the procedure for foreign central banks and international institutions to invest in the domestic RMB bond market.[25] However, once the goodwill motivation for investing in RMB instruments is replaced by shrewd calculation, risk-adjusted returns on RMB securities and liquidity of the RMB market will become major criteria.

5. Intervention in RMB

Central banks investing part of their foreign exchange reserves in RMB should not only be able to liquidate these easily but also have access to the domestic RMB money market. Concluding the Cross-border Collateral Arrangements with the PBoC would also help by enabling the use of home currency collateral to obtain domestic liquidity in the host country.

China has concluded more than 30 swap agreements with central banks around the world, primarily for the purpose of sustaining bilateral trade and investment. The choice of countries looks arbitrary and has given rise to various theories[26] but they might form the core RMB zone.

Table 5
List of RMB Bilateral Swap Agreements

Earliest agreement	Economic partner	Max. value in foreign currency (including extensions)	Max. value in RMB (including extensions)
12 December 2008	South Korea	KRW 64 trillion	¥360 billion
20 January 2009	Hong Kong	HKD 490 billion	¥400 billion
8 February 2009	Malaysia	MYR 90 billion	¥180 billion
11 March 2009	Belarus	BYR 16 trillion	¥7 billion
23 March 2009	Indonesia	IDR 175 trillion	¥100 billion
29 March 2009	Argentina	ARS 38 billion	¥70 billion
9 June 2010	Iceland	ISK 66 billion	¥3.5 billion
23 July 2010	Singapore	SGD 60 billion	¥300 billion
18 April 2011	New Zealand	NZD 5 billion	¥25 billion
19 April 2011	Uzbekistan	UZS 167 billion	¥0.7 billion
6 May 2011	Mongolia	MNT 2 trillion	¥15 billion
13 June 2011	Kazakhstan	KZT 150 billion	¥7 billion
23 June 2011	Russia	RUB 984 billion	¥150 billion
22 December 2011	Thailand	THB 320 billion	¥70 billion
23 December 2011	Pakistan	PKR 140 billion	¥10 billion
17 January 2012	United Arab Emirates	AED 20 billion	¥35 billion
21 February 2012	Turkey	TRY 3 billion	¥10 billion
22 March 2012	Australia	AUD 30 billion	¥200 billion
26 June 2012	Ukraine	UAH 19 billion	¥15 billion
26 March 2013	Brazil	BRL 60 billion	¥190 billion
22 June 2013	United Kingdom	GBP 21 billion	¥200 billion
9 September 2013	Hungary	HUF 375 billion	¥10 billion
12 September 2013	Albania	ALL 35.8 billion	¥2 billion
9 October 2013	European Union	EUR 45 billion	¥350 billion
21 July 2014	Switzerland	CHF 21 billion	¥150 billion
16 September 2014	Sri Lanka	LKR 225 billion	¥10 billion
3 November 2014	Qatar	QAR 20.8 billion	¥35 billion
8 November 2014	Canada	CAD 30 billion	¥200 billion
23 December 2014	Nepal	NPR	¥ billion
18 March 2015	Suriname	SRD 520 million	¥1 billion
10 April 2015	South Africa	ZAR 54 billion	¥30 billion
25 May 2015	Chile	CLP 2.2 trillion	¥22 billion
Total (excluding Nepal)			¥3,158.2 billion

Source: Based on PBoC data.

The use of these swap arrangements can be extended to support weak currencies in times of market turbulence. They are supplemented by the Chiang Mai Multilateral standby facility amounting to USD 120bn to be doubled to USD 240bn which has so far not been tested. In addition, there are bilateral arrangements initiated by China, such as the Silk Road Fund.

The sum of these arrangements can serve as a China-based replica of the IMF,[27] where the basic idea was to allow countries to use their domestic currencies to sustain growth during times of deteriorating external balances. Under current arrangements, the PBoC will administer the drawings on the swap facilities as well as the repurchase of domestic currencies.

6. Process of Creating a 'RMB Zone'

The process towards establishing an Asian Currency Unit (ACU) is stuck in the academic discussion and bogged down in political impasse. China's decision to decouple from the USD has dealt Asian countries with a dilemma, to follow the USD or the RMB. Some form of pegging to the RMB, first for Asian neighbor countries and subsequently for the wider world becomes more realistic. As China assumes greater importance in world trade, its declared aim of establishing preferential zones based on China trade and foreign investment,[28] such as the revival of the 'silk road' as well as the policy thrust of the 'one belt one road' strategy' (OBOR), can serve to advance a RMB currency zone.

The first choice, designing currency zones, does not necessarily lead to success, as the stalled Monetary Union in the Gulf (GCC) has shown. China apparently has not yet mapped out such a strategy, even if the RMB will be accepted as an international currency and included in the SDR basket. The choices for China are either to provide a framework for other countries to join a 'RMB zone' or just let other countries peg to RMB, thus creating a de-facto 'RMB zone'.

Assuming that the SDR issue will be resolved smoothly in the near future, it would be wise for China to encourage major trading partners to enter the 'RMB zone' by providing the three-legged basis, a trade denomination and settlement system, investment opportunities in RMB instruments and support facilities in form of money market access and swap arrangements.

The present RMB clearing function through various offshore centers is not ideal for running a global multilateral RMB clearing system. Sooner or later, these will have to be supplemented or even replaced by a China Cross-border Interbank Payment System (CIPS) which will have to be backed up by the domestic clearing system (CNAPS). This CIPS will be based onshore, in Shanghai.[29] This will also provide the reference rate, to which countries can peg in future.

Regarding investment of foreign exchange reserves, China has recently eased the process for foreign central banks and international organizations to purchase and

sell domestic RMB securities. These investors must register with the PBoC and are expected to be long-term investors (rather than speculators) and meet unspecified PBoC macroprudential requirements.[30] China will have to streamline various segments of the domestic RMB securities market and enhance market liquidity to make it attractive to hold RMB securities.

Finally, the present swap facilities and other stand-by arrangements have been designed to sustain trade with China but so far hardly used. Using them for intervention in foreign exchange markets will be the stress test, whether China would be ready to provide substantial amounts of international RMB, possibly having to bear losses if partner currencies come under massive pressure. China might have to face volatile foreign exchange markets sooner than a cautious dismantling of foreign exchange controls would envisage.

Providing this three-legged basis for countries pegging to RMB is still compatible with preserving capital account restrictions. However, this strategy needs to be enhanced and made more transparent for markets, including how much support China is prepared to provide for its RMB partners. The PBoC would be best placed to provide the full picture of the emergence of a 'RMB zone' in its annual review of internationalization of RMB.

7. Conclusion

Once the RMB has been accepted as a component of the SDR, many foreign central banks, notably those with significant trade links with China will be willing to use RMB as the official reference currency. For pegging, they will devote a bigger share of their foreign exchange reserves to the RMB and search for more investment vehicles in RMB. The China Government Bond (CGB) market needs to be further deepened and liquidity enhanced for reserve managers in foreign central banks to feel comfortable in investing in RMB vehicles. The present swap arrangements with more than 30 central banks can serve for intervention purposes if the pegging currencies come under pressure. China needs to specify the conditions of the swap facilities, and add access to the domestic money market by foreign central banks as well as conclude more cross-border collateral arrangements.

Using the RMB as the reference currency can be done either by design by the Chinese authorities or unilaterally by China's trading partners, even without a major reform of the international financial system. Whichever route China takes, this would be a major step forward in the process of internationalization of the RMB. A 'RMB Currency Zone' would also strengthen the present 'one road one belt' strategy, first among neighboring countries and then for the rest of the world.

Herbert Poenisch is currently a Member of Academic Committee, International Monetary Institute, Renmin University, Beijing, China. He was former Senior Economist in the Monetary and Economic Department of the Bank for International Settlements (BIS), which he joined in 1990.

At the BIS, he served in various capacities including assisting the integration of the transition economies into the international financial system, organizing workshops and seminars for officials from these countries to learn about the functioning of market economies, mainly at the Joint Vienna Institute. In support of the BIS' decision to disseminate the research and discussions conducted by the Bank to non-member central banks with the help of regional central bank organizations, such as SEACEN, he was in charge of organizing and delivering such workshops and seminars.

Prior to joining the BIS, Dr. Poenisch worked in various capacities at the Austrian National Bank. This included the analysis of commercial banks, research of global economic developments as well as foreign exchange control. He represented the Austrian National Bank in various international conferences at the International Monetary Fund (IMF), the Organization for Economic Co-operation and Development (OECD) and the BIS. This work covered mainly statistical issues for the compilation of internationally comparable statistics, such as on cross-border capital flows, indicators of banking systems and also the liberalization of capital movements. During this time he was sent on short-term assignments to international organizations, notably the IMF, OECD and Asian Development Bank.

Email: laohu23@hotmail.com

Endnotes

1. Even the FT mentions a 'renminbi zone' in Global Currencies: Reminbi, FT Special Report, 29 July 2015.

2. Ma Guonan has argued already in February 2015 that this move was long due, Blogs.ft.com, 23 February 2015.

3, IMF DOT Statistics, Available at: www.imf.org/statistics

4. Howard, David, (2003), "The Use of Foreign Currencies: The US Perspective," Regional Currency Areas and the Use of Foreign Currencies. *BIS Papers,* No. 17, May, Available at: www.bis.org/publications

5. The Iceland crisis is a case in point of a non-EU member country: Gudmundsson, Mar, (1999), "Small States on the Fringe of Big Currency Areas: Experiences and Policy Options for Small Non-EU European States," *Central Bank of Iceland Working Papers,* No. 4, Available at: www.seldabanki.is

6. The US has reluctantly provided swap facilities with selected central banks after the global financial crisis. The Sterling area and the Zone Franc featured such support facilities as does the Common currency area. The Euro support mechanism for Eurozone member countries has been tested during the current crisis. Currencies outside are unlikely to receive such support.

7. The Annual ECB Review of the international role of the euro is a good example, Available at: www.ecb.int/publications

8. This parable was used by Joseph Yam, Former Chief Executive of the HKMA to defend the currency peg to the USD

9. Tu Yonghong; Rong Chen and Wu Yuwei, (2015), Spillover Effects of China's Monetary Policy in the Context of the Implementation of RMB International Strategy: The Impact on South East Asian Macro-economies, (Forthcoming).

10. Ma Guonan and Agustin Villar, (2014), "Internationalization of Emerging Market Currencies," in *BIS Papers,* No. 78, Available at: www.bis.org/publications

11. BIS, (2013), Triennial Foreign Exchange Survey. Foreign Exchange Turnover, Available at: www.bis.org/statistics, April.

12. Substantial amounts of RMB cash are already in use in border areas of Russia, Mongolia and Kazakhstan, People's Bank of China, (2015), Annual Report 2014 (E), 1 July 2015, Available at: www.pbc.gov.cn

13. The IMF is expected to decide on this issue by the end of 2015, it will not come into force until October 2016.

14. Under the IMF definition, a currency is eligible for inclusion in the SDR basket if it is issued by a major exporting country and if its currency is freely usable. See IMF Policy Paper on 'Review of the Method of the Valuation of the SDR-Initial Considerations,' 16 July 2015, Available at: www.imf.org/external

15. Zeti, Akhtar Aziz, (2015), "Renminbi and China's Global Future: Keynote Address," at HSBC RMB Forum, 17 August, Available at: www.bnm.gov.my

16. McCauley, Robert and Tracy Chan, (2014), "Currency Movements Drive Reserve Composition," *BIS Quarterly Review*, December, Available at: www.bis.org/publications

17. Bank for International Settlements, (2015), Chapter V, BIS 85th Annual Report, Table V2: Selected Indicators for the International Use of Key Currencies, Available at: www.bis.org/publications

18. BIS Securities statistics, Available at: www.bis.org/statistics

19. Strictly speaking, these do not count as foreign exchange reserves under the IMF definition.

20. Hong Kong Monetary Authority, (2015), The Premier Offshore RMB Business Centre, April, Available at: www.hkma.gov.hk

21. BIS Securities Statistics, Available at: www.bis.org/statistics

22. The sterilization bonds in emerging markets have been a major element of issuance of local currency bonds. Miyijima, Ken, M. S. Mohanty and Tracy Chan, (2012), "Emerging Market Local Currency Bonds: Diversification and Stability," *BIS Working Papers,* No. 391, November, Available at: www.bis.org /publications

23. Ma Guonan and Wang Yao, (2015), "Can the Chinese Bond Market Facilitate a Globalizing RMB?" *Fung Global Institute Working Paper*, Available at: www.fgi.org

24. Institute for International Finance, (2015), Capital Flows to Emerging Markets, 28 May, Available at: www.iif.org

25. Financial Times, (2015), Beijing Cuts Red Tape on Interbank Debt, 16 July.

26. Garcia-Herrero, Alicia and Le Xia, (2013), "China Bilateral Swap Agreements: What Explains the Choice of Countries?" *Bank of Finland Discussion Papers,* December.

27. This has been a political goal of China, to replicate the IMF as the proposed quota review has so far not materialized.

28. International Monetary Institute, Renmin University, (2015), Renminbi Guojihua Baogao, Available at: www.imi.org.cn

29. People's Bank of China, (2015), Annual Report 2014, Chapter Use of RMB in International Transactions, p. 67, Available at: www.pbc.gov.cn

30. Truman, Edwin, (2015), "The Chinese Renminbi is Not a Freely Usable Currency Yet," Peterson Institute for International Economics, Blog, 7 August 2015, Available at: http://blogs.piie.com/realtime/?p=5141

References

Bank for International Settlements, (2015), Chapter V, BIS 85th Annual Report, Table V2: Selected Indicators for the International Use of Key Currencies, Available at: www.bis.org/publications

Financial Times, (2015), Global Currencies: Renminbi, Special Report, 29 July 2015, Available at: www.ft.com

Garcia-Herrero, Alicia and Le Xia, (2013), "China Bilateral Swap Agreements: What Explains the Choice of Countries?" *Bank of Finland Discussion Papers,* December, Available at: www.bof.fi

Gudmundsson, Mar, (1999), "Small States on the Fringe of Big Currency Areas: Experiences and Policy Options for Small Non-EU European States," *Central Bank of Iceland Working Papers,* No. 4, Available at: www.sedlabanki.is

Howard, David, (2003), "The Use of Foreign Currencies: The US Perspective," Regional Currency Areas and the Use of Foreign Currencies. *BIS Papers,* No. 17, May, Available at: www.bis.org/publications

Institute for International Finance, (2015), Capital Flows to Emerging Markets, 28 May, Available at: www.iif.org

International Monetary Fund, (2015), "Review of the Method of the Valuation of the SDR-Initial Considerations," *IMF Policy Paper*, 16 July 2015, Available at: www.imf.org/external

International Monetary Institute, Renmin University, (2015), Renminbi Guojihua Baogao, Available at: www.imi.org.cn

Ma Guonan, (2015), "Time to Ditch the Renminbi-USD Peg," 23 February, Available at: http://blogs.ft.com

Ma Guonan and Wang Yao, (2015), "Can the Chinese Bond Market Facilitate a Globalizing RMB?" *Fung Global Institute Working Paper*, Available at: http://www.asiaglobalinstitute.hku.hk

Ma Guonan and Agustin Villar, (2014), "Internationalization of Emerging Market Currencies," *BIS Papers,* No. 78, Available at: www.bis.org/publications

McCauley, Robert and Tracy Chan, (2014), "Currency Movements Drive Reserve Composition," *BIS Quarterly Review*, December, Available at www.bis.org/publications

Miyijima, Ken; M. S. Mohanty and Tracy Chan, (2012), "Emerging Market Local Currency Bonds: Diversification and Stability," *BIS Working Papers,* No. 391, November, Available at: www.bis.org/publications

Truman, Edwin, (2015), "The Chinese Renminbi is Not a Freely Usable Currency Yet," Peterson Institute for International Economics, Blog, 7 August, Available at: http://blogs.piie.com/realtime/?p=5141

Tu Yonghong; Rong Chen and Wu Yuwei, (2015), Spillover Effects of China's Monetary Policy in the Context of the Implementation of RMB International Strategy: The Impact on South East Asian Macro-economies, (Forthcoming).

Yu Yongding, (2015), "China's Daring Depreciation," Project Syndicate, 19 August 2015, Available a: www.project-syndicate.org

Zeti, Akhtar Aziz, (2015), "Renminbi and China's Global Future: Keynote Address," at HSBC RMB Forum, 17 August, Available at: www.bnm.gov.my

Macroprudential Policy in the Nordic-Baltic Area

David Farelius[1]

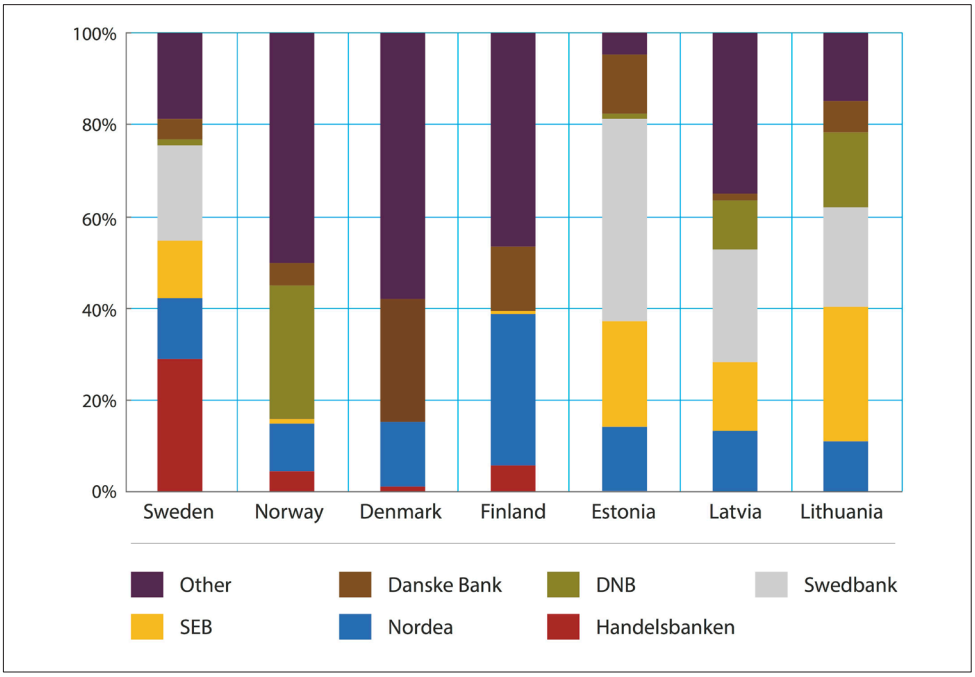
1. Introduction

The Nordic-Baltic region in the northern part of Europe is one of the most tightly integrated regions in the world, not least in terms of financial integration. Financial integration has also spurred the need to cooperate and tackle common risks and the region has a long history of cooperation in the financial stability area. Macroprudential policy, the new regime in economic policymaking, will be of particular importance for the region given the financial interlinkages and the need to tackle risks facing financial stability. The implementation of Basel III in Europe has brought about a number of new macroprudential instruments which are now starting to be implemented across the Nordic and Baltic States. The purpose of this paper is to provide an introduction and overview to macroprudential policy implementation in the Nordic-Baltic area.

2. Strong Financial Integration among Heterogeneous Countries

The Nordic-Baltic banking system is highly integrated, concentrated and dominated by a handful of large banks. Six regional banks make up 90% of total assets of the regions' publicly-listed banks.[2] The size of the banking systems is also large in relation to GDP. For example in Sweden, the size of the consolidated banking assets of the four largest banks is almost equivalent to four times the size of the Swedish GDP.[3] An important source of financing for the Nordic banking system comes from the domestic and international whole-sale markets. In Estonia and Lithuania especially, five of the six banks (Nordea, SEB, Swedbank, DNB and Danske Bank) dominate the banking activity (Chart 1). The cross-border linkages are mainly through subsidiaries. However, the largest bank, Nordea, has recently announced its intention to transform its subsidiaries into branches.[4]

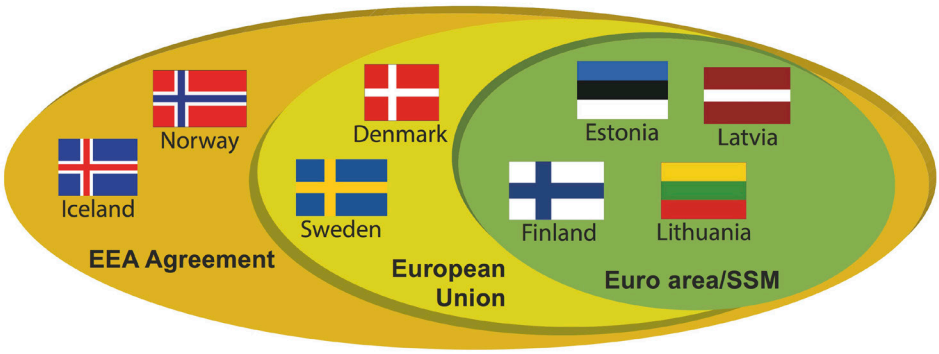
Chart 1
Bank Integration in the Nordic-Baltic Area: Share of Lending To The Public



Source: Statistics Sweden, Norges Bank, Statistics Norway, Statistics Finland, Association of Latvian Commercial Banks. Association of Lithuanian Banks, Estonian Financial Supervision Authority, Bank Reports, The Riksbank (2009).

At the same time, there are significant differences between the eight countries. Six countries participate in the European Union, while two countries are outside the EU. Four of the six EU countries are also euro area members and hence participate in the Single Supervisory Mechanism (SSM) (see Figure 1).

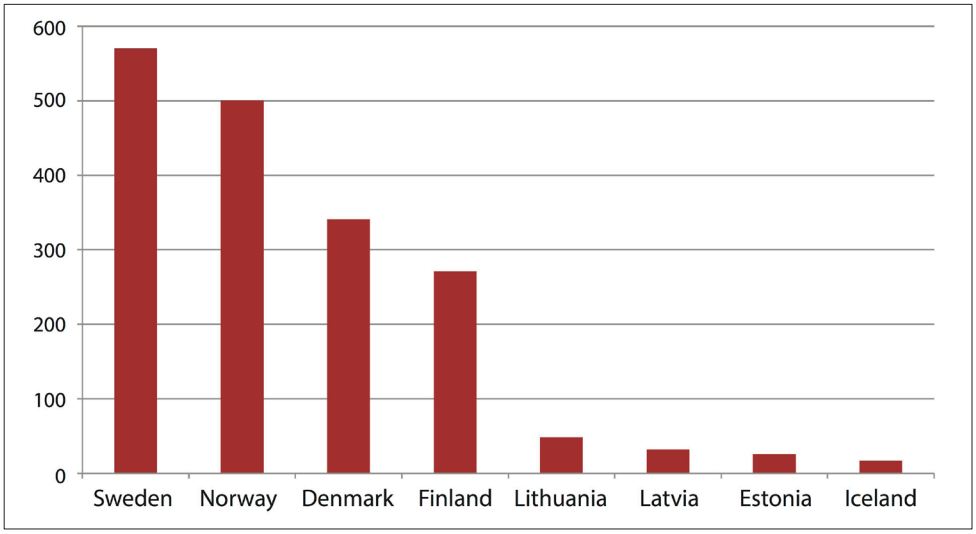
Figure 1
Classification of Type of Membership (EEA, EU, SSM)



Source: Nordic-Baltic Central Banks.

For those countries outside the euro area, three countries (Norway, Iceland and Sweden) are inflation-targeters with floating exchange rates while one country (Denmark) pursues a fixed exchange rate regime. GDP levels also differ significantly between especially the large Nordic countries and the three Baltic states, where levels in the latter are much lower (Chart 2).

Chart 2
GDP in 2014 for the Nordic and Baltic Countries (Billion USD)



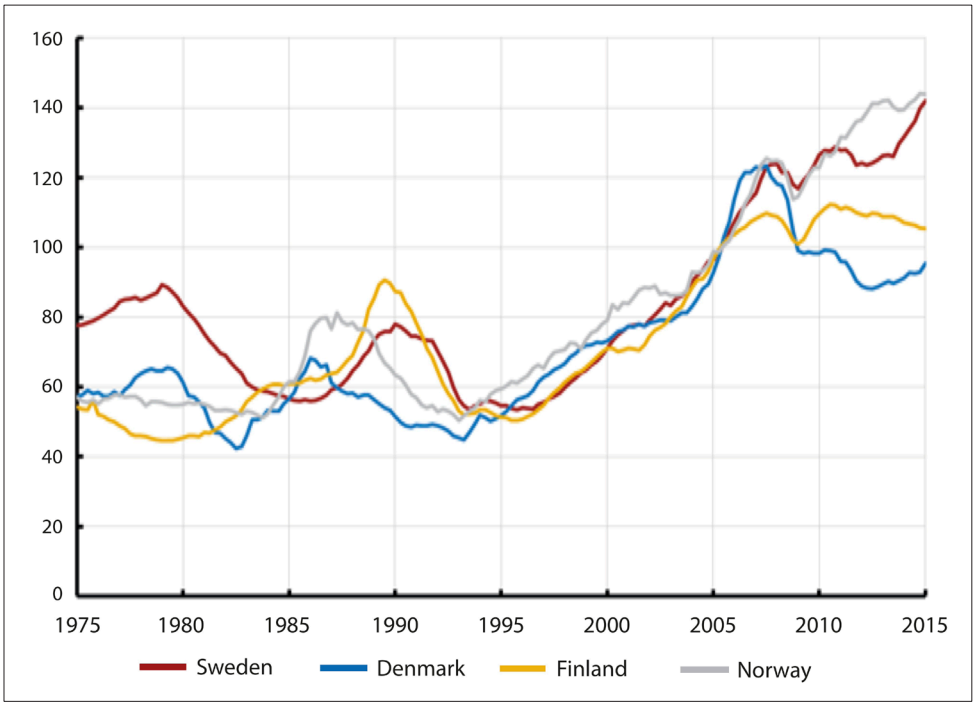
Source: IMF (World Economic Outlook).

3. Risks Facing Financial Stability in the Nordic-Baltic Countries

All eight countries have in recent history experienced financial crises in various forms. Norway, Finland and Sweden were severely hit by a domestic banking crisis in the late 1980s and early 1990's, all three ranked as part of the "big five" advanced economy crises according to Reinhart and Rogoff.[5] Iceland and the three Baltic States faced significant output losses during the 2008-2009 global financial crises. With these episodes in recent history, policy makers are aware of the need to curtail the build-up of imbalances that could lead to future crisis.

The Nordic and Baltic countries are faced with both domestic and regional risks to financial stability. Domestically, elevated house prices and household debt levels could make it more likely that house price or interest rate shock could be passed quickly into reduced aggregated demand.[6] Chart 3 shows that house prices have been on the rise in all Nordic countries during the last twenty years. In Norway and Sweden, the rise in house prices has been particularly prevalent. While Denmark experienced a fall in house prices during the financial crisis 2007-2008, recent data indicate that prices are on the rise again.

Chart 3
Real House Price Developments in the Nordic Countries



Source: Riksbank.

Following a period of high credit growth, the Baltic States were severely hit during the financial crisis in 2008 with subsequent large falls in house prices. This development has been reversed in the past few years but prices are still well below their peak prior to the crisis.

From a regional perspective, given the financial openness in the Nordic economies, spillovers from the pan-Nordic banking system are potentially large. From a structural perspective, the large size of the banking system relative to GDP could increase the potential severity of a crisis. Moreover, the relatively heavy dependence on whole-sale funding in some countries adds to risks. The introduction of macroprudential instruments via the capital requirements regulation and directive (CRR/CRD IV)[7] has paved the way for more diverse means of tackling both the cyclical and structural risks facing financial stability in the Nordic-Baltic region.

4. Macroprudential Policy Implementation

4.1 Choice and Design of Instruments

As is generally the case elsewhere, macroprudential policy is a fairly new concept in the Nordic-Baltic area. Prior to the financial crisis in 2008, macroprudential policy

implementation was limited to a few cases involving instruments poised to dampen credit growth, for example the increase of risk weights for housing loans from 50% to 100% in the calculation of capital requirements in Estonia in 2006 or the LTV restriction implemented in Latvia in 2007.[8] As noted above, following the financial crisis and recently with the introduction of the CRR/CRD IV, both the number of available instruments and their actual use have increased. The implementation of macroprudential instruments in different countries should be seen in the light of different stages of financial cycles and different structural characteristics. Concerning the choice of instruments targeted towards imbalances in the housing market, the loan-to-value restriction is the most prevalent in the Nordic-Baltic region. As can be seen from Table 1, the LTV restriction is now in use or being phased-in in all Nordic-Baltic countries with levels ranging from 85 to 95%. Also in the European Union, the LTV is the most prevalent macroprudential tool.[9] Other instruments targeting the housing market are loan-to-income (LTI) restrictions or debt-service-to-income (DSTI) ratios. A few countries combine LTV with income-related restrictions. For example, in 2015 Estonia introduced a LTV of 85% combined with a DSTI limit of 50% as well as an amortization period of 30 years.[10]

Table 1
Macroprudential Policy Implementation in Nordic and Baltic Countries

	Denmark	Estonia	Finland	Iceland	Latvia	Lithuania	Norway	Sweden
LTV restriction	X	X	X*	X	X	X	X	X
DSTI		X				X		
Countercyclical capital buffer	X	X	X		X	X	X	X
Sector specific risk weight, risk weight floor							X	X
Systemic Risk Buffer (SRB)	X	X					X	X
Capital Conversation Buffer	X*	X	X		X	X	X	X
Additional capital requirements for Systemically important institutions	X**						X	X
Liquidity Coverage Ratio	X	X		X	X	X		X
Net Stable Funding Ratio				X				
Amortization requirements/ maximum loan maturity		X				X	X	X*

Note: Announced measures as of September 2015. The Table shows both implemented measures as well as the implementation of the legal framework for each measure. For example, in some countries, the legal framework for the countercyclical capital buffer is in place but the buffer is not activated above 0%. The systemic risk buffer (SRB) is intended to increase the resilience of the financial sector to non-cyclical risks that could have a serious negative impact on the national financial system or the real economy.

*= planned measure. **=SRB used for additional capital requirements for systemically important institutions.

Source: Nordic and Baltic Central Bank and Supervisory Authorities.

A few countries have also implemented measures in the risk weight area to address risks related to household debt and housing markets. In view of the very low risk weights resulting from the banks' internal models, both Norway and Sweden have taken measures to raise the floor on risk weights for mortgages.[11, 12]

The countercyclical capital buffer is also in the process of being implemented. Norway and Sweden are the sole countries in the region to have activated and implemented the buffer above 0% while all countries will have introduced the legal framework for the buffer by 2016. The introduction of amortization requirements will be implemented in Sweden in 2016 in the face of rapidly increasing household indebtedness. These amortization requirements were originally to be implemented in 2015 but due to uncertainties with respect to the mandate of the Swedish FSA to implement these restrictions, implementation has been postponed.[13] Amortization requirements are already in place in Norway since July 2015.

Tax incentives for borrowing is also fairly common in the Nordic countries although in a few countries there are discussions on reducing this incentive (Sweden) while reductions of tax deductibility have been adopted in both Denmark and Finland.

The exact design of the macroprudential instruments varies across the Nordic and Baltic countries. In some cases, they are designed as a strong guideline from the supervisor. For example, this applies to the LTV restriction in Sweden.[14] On the other hand, in the three Baltic States, the LTV restriction is a legal requirement.

4.2 The Effectiveness of the Measures

Given the relatively limited experience with macroprudential instruments in the Nordic-Baltic region, it is too early to draw any conclusions as to how effective the measures have been. Some countries in Asia have much more empirical experience. This is especially the case in South Korea, where measures were already implemented (for example the LTV restriction) in 2002. As stated above, it is only after the introduction of Basel III in Europe (via the CRR/CRD IV) that a broad range of macroprudential instruments have become available. In South Korea, the LTV and DTI restrictions are considered to have contributed to a dampening of house prices and household indebtedness.[15] Latvia introduced an LTV restriction of 90% in 2007, just prior to the onset of the financial crisis, which affected the country severely with rapidly falling house prices. While it is difficult to draw any firm conclusions as to the effectiveness of the measure, there was anecdotal evidence that the measure helped to reduce the speculative features of the housing market.

Lithuania introduced a number of measures in 2011 targeted towards the housing market.[16] The measures included a LTV restriction in combination with a DSTI restriction and an amortization requirement. These measures do not seem to have had a significant effect on credit growth, probably because the demand for

housing credits was low after the financial crisis in 2008. Norway introduced a LTV restriction at 90% in March 2010 as a soft guideline from the FSA. This restriction was subsequently tightened to 85% in December 2011 and has recently been introduced in a regulation which also includes requirements for amortization.[17] While the increase in the rate of growth for mortgages in Norway has fallen since 2012 and there are some signs that the share of debt with very high LTV has been reduced somewhat, it is not possible to draw any firm conclusions as to the role of the LTV recommendation in this development, especially since it was only a soft guideline up until July 2015. Sweden introduced a LTV restriction at 85% in October 2010. The measure is deemed to have contributed in curbing the trend in recent years of rising loan-to-value ratios in Sweden. The mortgage cap has dampened household indebtedness and unsecured loans have become less common.[18]

4.3 What Does Research Say about the Effectiveness of Macroprudential Measures?

The limited research on the effectiveness of macroprudential measures so far shows that the measures with the most effect on credit growth and house prices are reserve requirements, increased risk weights and LTV-restrictions. Exactly how the instruments work differ from country to country. In some cases, the level of the instrument is important while in other cases, the change in level is more important. Kuttner and Shin (2012) examines the effectiveness of non-interest rate policies and macroprudential policy in a sample of 57 countries during 1980 – 2011. They find that housing credit responds in the expected way to changes in the maximum DSTI ratio, the maximum LTV ratio, exposure limits and housing-related taxes. Of the policies targeted at the demand side of the market, the evidence indicates that reductions in the maximum LTV ratio do less to slow credit growth than lowering the maximum DSTI ratio does. According to Kuttner and Shin, this may be because during housing booms, rising prices increase the amount that can be borrowed, partially or wholly offsetting any tightening of the LTV ratio.

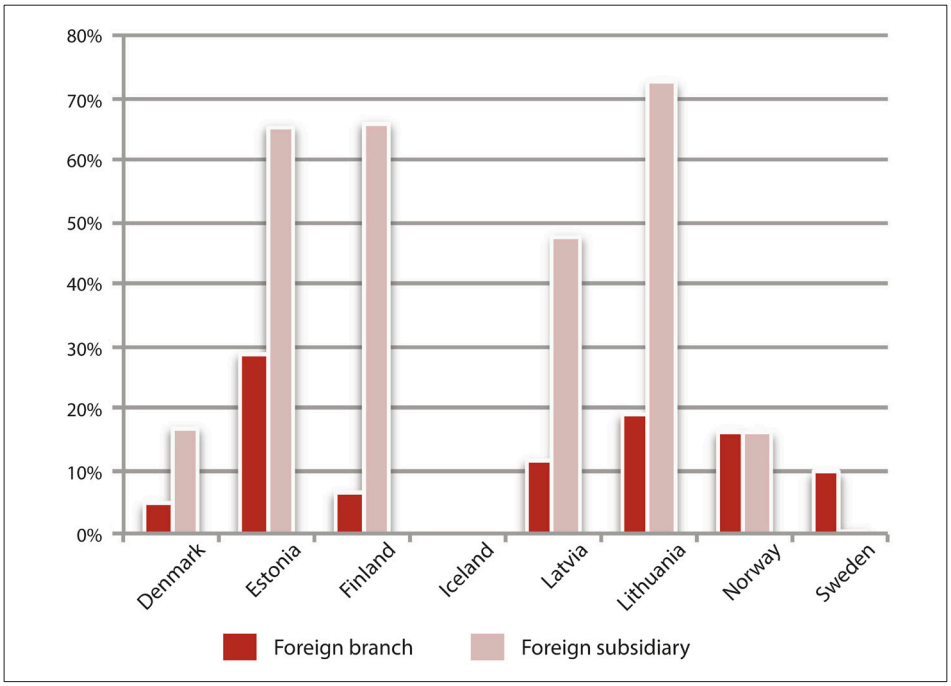
In the IMF (2015) studies of the use of macroprudential policies for 119 countries over the 2000-13 period, covering many instruments, it is concluded that emerging economies use macroprudential policies most frequently; especially foreign exchange related ones, while advanced countries use borrower-based policies more. Usage is generally associated with lower growth in credit, notably in household credit. Effects are less in financially more developed and open economies, however, and usage comes with greater cross-border borrowing, suggesting some avoidance. And while macroprudential policies can help manage financial cycles in booms, they work less well in busts.

Given the limited empirical experience of macroprudential policy implementation across the Nordic and Baltic countries, it is difficult to draw any conclusions as to how effective these policies have been. More time is needed for any conclusions to be drawn.

4.4 Reciprocation of Macroprudential Policy

Reciprocity of prudential requirements is widely regarded as a mechanism aimed at addressing the negative consequences due to the differences in prudential requirements in various countries for the same exposure in one of these countries. The term reciprocity refers to an arrangement whereby the authority in the home country recognizes the prudential requirement set by the authority in the host country, for exposures through a foreign branch or directly from the home market. This means that for countries with important branches from abroad, reciprocity agreements with the home supervisors of these banks will be important for the effectiveness of macroprudential policy. For example, consider a supervisor in a country with a banking system dominated by foreign branches that decides to activate a specific buffer (e.g. the countercyclical capital buffer) for domestic exposures. In order for the measure to be effective, a decision to reciprocate that measure from the home supervisor of the foreign branches would be needed. In the absence of such reciprocity decision, the buffer will only apply to domestic exposures within the supervisors' own jurisdiction and, hence, cover fewer exposures and become less effective. Chart 4 shows the relative importance of foreign branches and subsidiaries in the Nordic-Baltic countries. As can be seen, reciprocity for macroprudential policy will be important in for example Estonia, with around 30% of assets in the hands of foreign branches.

Chart 4
Relative Importance of Foreign Branches and Subsidiaries in the Nordic-Baltic Countries (Percent of Total Assets, 2013)



Source: Nordic-Baltic Central Banks.

Reciprocity is mandatory for some instruments in the CRR/CRDIV such as the countercyclical capital buffer (up to 2.5%) and some measures aimed at increasing risk weights and loss-given-default rates. For other measures, such as the systemic risk buffer, reciprocity is voluntary. There are already examples of voluntary reciprocity arrangements in the Nordic area. For example, both Denmark and Sweden have reciprocated a measure to make the calibration of Norwegian IRB-banks' risk weight models for mortgage loans stricter.[19]

Given the importance of reciprocity in some of the Nordic-Baltic countries, work on reciprocity issues started in the NBMF (see below) in 2013. This work was later fed into work at the EU-level and currently efforts are underway to design a voluntary framework for reciprocity within the EU. An underlying principle will be that measures targeting exposures (such as mortgages) should be reciprocated while there would be less of a presumption to reciprocate measures targeting institutions (such as buffers for systemically important institutions). The European Systemic Risk Board (ESRB)[20] will be given an essential role in the framework. In the context of this framework, which will be implemented as a recommendation of the ESRB, the EU member state activating a measure will have to notify the ESRB and ask for the measure to be reciprocated. The countries with banks having exposures in the activating country will have to reciprocate or explain the reason for not reciprocating.

One future development that could potentially have important consequences for reciprocity of macroprudential policy is an announced change of the legal structure of Nordea, the largest bank in the region. The bank has initiated preparatory work to simplify the legal structure by changing the Norwegian, Danish and Finnish subsidiary banks to branches.[21] According to Nordea, such a process could take around two years to implement. Should this change be implemented, it will imply that reciprocity issues will become even more important for the Nordic-Baltic area, not least for Finland as its largest domestic bank now would be in the form of a foreign branch.

4.5 Institutional Responsibility for Macroprudential Policy In The Nordic-Baltic Area

All eight countries have taken decisions to formally designate a domestic authority or body in charge of macroprudential policy. Iceland was the last country to do so in 2014 subsequent to the creation of its Financial Stability Council. As can be seen in Table 2, there are differences between how the countries have chosen to implement the institutional set-up. In some countries (Estonia and Lithuania), the central bank is in charge of macroprudential policy. In Finland and Sweden, the Financial Supervisory Authority has this role while for Norway; the Ministry of Finance is the designated macroprudential authority. In Denmark, the Minister for Business and Growth has the role as designated authority. Domestic cooperative bodies (councils) have been formed in Denmark, Iceland, Latvia and Sweden, bringing together relevant authorities in the macroprudential area. In the Icelandic and Swedish councils, the Ministry of Finance is the chair, while in Denmark; the Central Bank Governor chairs the Systemic Risk Council.

Table 2
Institutional Responsibility for Macroprudential Policy

	Denmark	Estonia	Finland	Iceland	Latvia	Lithuania	Norway	Sweden
Central Bank		X				X		
Supervisory Authority			X		X			X
Government	X						X	
Council	X			X				X

Source: Central Bank and Supervisory Authorities of the Nordic and Baltic Countries.

Some countries also make a distinction between the designated authority and the competent authority for macroprudential policy. For example, in Denmark, the Minister for Business and Growth is the designated authority for e.g. countercyclical capital buffer, while the supervisory authority is the competent authority for e.g. risk weights.

5. Nordic-Baltic Macroprudential Forum (NBMF)

Prior to 2011, there was no natural high-level platform for central banks and supervisory authorities in the Nordic-Baltic region to meet regularly. Nordic central banks have, for a number of years, been meeting in various forms and levels of seniority; for example the Nordic central bank governors meet regularly. The Heads of the Nordic supervisory authorities also meet regularly. However, there was no high-level forum for both central bank governors and heads of supervisory authorities in Nordic and Baltic countries. As the European Systemic Risk Board (ESRB) was created in 2010, involving both central banks as well as supervisory authorities, the Nordic-Baltic Macroprudential Forum (NBMF) started its operations in 2011 under the chairmanship of Stefan Ingves, Governor of the Riksbank.

5.1 The Mandate of the NBMF

While the NBMF is an informal body with no decision-making authority, the mandate of the Forum has been to discuss risks facing financial stability in the Nordic-Baltic countries and the implementation of macroprudential measures. The NBMF has also discussed a number of separate topics such as the application of risk weights in the Nordic-Baltic area, and reference rates. Separate work streams have been established for more in-depth examination of various topics. For example, the introduction and analytical frameworks of the countercyclical capital buffer has been monitored in the region. Reciprocation of macroprudential policy is also a topic that has been given special attention in the Forum. The NBMF has also discussed issues related to the ESRB, for example on FX-lending and coordinated a response from the Nordic and Baltic countries to the ESRB recommendation on FX lending.

5.2 Working Methods of the NBMF

When the NBMF was created in 2011, there was no formal body to prepare its meetings, nor a large secretariat to take on this role. Staff of Riksbank initially took on the role as secretariat as the Chair of the Forum is with the Governor of the Riksbank. Gradually it became clear that in order for the meetings of the Forum to be prepared in an efficient way, a technical group would need to take on such role. In 2012, a sub group to the NBMF had its first meeting under the chairmanship of the Swedish FSA. It also became clear that it would be useful at the meetings of the Forum to make a presentation on the current perception of risks facing financial stability in the Nordic-Baltic area as well closely follow the implementation of macroprudential policy in the region. Inspired by the ESRB, the NBMF sub group has since 2013 been collecting information by means of a regular questionnaire. This way, a consistent presentation on the current risk outlook as well as on macroprudential policy implementation can be presented at the meetings of the Forum, which are held twice a year.

6. Conclusions

Macroprudential policy implementation in the Nordic and Baltic countries is a fairly new concept with limited empirical experience. The introduction of the CRR/CRD IV in national legislation has both increased the availability of macroprudential instruments as well as their use. In addition, the institutional responsibility for macroprudential policy has now been clarified and decided in all of the eight countries. Concerning macroprudential instruments, the LTV restriction is the most prevalent instrument, followed by the increased use of the countercyclical buffer. It is too early to draw any conclusions as to the effectiveness of the macroprudential policy measures given the limited empirical experience. Reciprocity of macroprudential policy is important in the Nordic-Baltic context due to strong financial integration. Reciprocity arrangements will become even more important should Nordea conclude plans to transform their subsidiaries in Denmark, Norway and Finland into branches.

In a financially integrated region such as the Nordic-Baltic, cooperation in the macroprudential area has been promoted, not least with the creation of the Nordic-Baltic Macroprudential Forum (NBMF). The informal nature of the Forum has been promoting good discussions. The fact that the group is relatively small, with less than 20 persons around the table, has also likely helped. Work in the NBMF has been effective, for example, the work on reciprocity issues was initiated in the NBMF before work at the European level. As the work in the ESRB on reciprocity issues has started, the EU could benefit from the work that was already done in the NBMF.

For the future, a number of challenges will have to be tackled. One such challenge is that not all designated authorities of macroprudential policy are part of the Forum. As can be noted in Table 2, both Denmark and Norway have decided that the Government is the designated authority. While this challenge should not be overemphasized, this fact will most likely mean that the Forum will remain informal

in the future as any strengthening of the mandate of the group would require changes to its composition. Another challenge is the fact that some countries of the Forum are members of the euro area and hence in the recently introduced single supervisory mechanism (SSM) among the euro area countries. The SSM assigns some macroprudential responsibilities to the European Central Bank (ECB) for countries in the euro area. The ECB is currently not taking part of the discussions in the Forum and given that it is an informal group, participation will most likely remain unchanged in the future as well. At the same time, as the implementation of macroprudential policy evolves, and given the role of the ECB in the implementation of macroprudential policy in the euro area countries, the question is whether there will be a future need to somehow involve the ECB in the Forum. Finally, should Nordea pursue its plans to restructure its operations from subsidiaries to branches, the role for reciprocity issues will likely become more important. This, in turn, could strengthen the role for the NBMF.

David Farelius is Adviser in the Financial Stability Department of Sveriges Riksbank since September 2009. He has been concentrating his work on both financial stability risk assessments as well as the financial crisis resolution area, the latter for which he has prepared a few crisis simulation games. He has also worked on methods for systemic impact assessments. He has been involved in the work of the Nordic-Baltic Macroprudential Forum (NBMF) since it was created in 2011. He is currently Chairman of the work stream on reciprocity under the NBMF and also Chair of the Monitoring Working Group under the Nordic-Baltic Stability Group (NBSG). He has participated in the work of the European Systemic Risk Board (ESRB) as member of various working groups/teams: ESRB Assessment Team (assessing macroprudential measures notified to the ESRB), Analysis Working Group and Expert Group on cross-border effects of macroprudential policy and reciprocity. Prior to joining the Financial Stability Department, he has held positions at the General Secretariat in the Riksbank, the IMF and the Ministry of Finance in Sweden.

Endnotes

1. Disclaimer: The views and opinions expressed in this article are those of the author and do not necessarily reflect the official policy or position of the Riksbank or any other authority in the Nordic-Baltic area.

   The author would like to thank Stefan Ingves, Martin W Johansson, Jill Billborn, Matilda Gjirja, Maria Carlsen, Jana Kask, Nijolė Valinskytė, Armands Pogulis, Eliisa Kaloinen and Kristine Høegh-Omdal for valuable comments.

2. IMF (2013.)
3. Riksbank (2015).
4. Nordea (2015).
5. Reinhart and Rogoff (2008).
6. Nordic regional report, IMF (2013).
7. European implementation of Basel III.
8. European Central Bank (2014).
9. ESRB (2015).
10. Eesti Pank (2014).
11. Finanstilsynet (2014).
12. Finansinspektionen (2014).
13. The original proposal introduced in the spring of 2015 included a requirement to amortize down to a LTV of 50% and would be applicable to new loans only (Finansinspektionen, 2015).
14. Prior to July 2015, the LTV in Norway was part of a soft guideline for prudent mortgage lending.
15. Tae Soo Kang (2014).
16. Bank of Lithuania (2011).
17. The regulation includes amortization requirement of 2,5% per year for loans with a LTV higher than 70%, a LTV restriction of 85% and a stress test for borrowers (borrowers must be able to manage a 5 percentage point interest rate hike) (see Finanstilsynet, 2015).

18. Finansinspektionen (2015).

19. The letter from Finanstilsynet (in Norwegian), the note describing the proposed calibration (in English) and the answers from the Danish FSA (in Danish) and the Swedish FSA (in Swedish) are available at Finanstilsynet's website: http://www.finanstilsynet.no/no/Artikkelarkiv/Aktuelt/2014/2_kvartal/Okte-risikovekter-for-boliglan--nordisk-samarbeid/

20. Created in 2010, in response to the ongoing financial crisis, the ESRB is mandated with the macroprudential oversight of the financial system within the European Union in order to contribute to the prevention or mitigation of systemic risks to financial stability in the EU. The ESRB is part of the European System of Financial Supervision (ESFS).

21. Nordea (2015).

References

Bank of Lithuania, (2011), Responsible Lending Regulations.

Eesti Pank, (2014), "Requirements for Housing Loans," Background Analysis for the Introduction Of Limits on the LTV Ratio, the DSTI Ratio and the Loan Maturity on Housing Loans Issued in Estonia, November.

European Central Bank, (2014), "Recent Experience of European Countries with Macroprudential Policy," *Financial Stability Review*.

European Systemic Risk Board (ESRB), (2015), National Measures in the EU/EAA Notified to the ESRB, or of which the ESRB is Aware, and are of Macroprudential Interest, September.

European Systemic Risk Board, (2011), "Recommendation of the European Systemic Risk Board of 21 September 2011 on Lending in Foreign Currencies," ESRB/2011/1.

Finansinspektionen, (2015), Amortization Requirement for New Mortgages, Sweden.

Finansinspektionen, (2015), The Swedish Mortgage Market, Sweden.

Finansinspektionen, (2014), Capital Requirements for Swedish Banks, Sweden.

Finanstilsynet, (2015), Finanstilsynet Proposes Establishing Requirements on Residential Mortgage Lending Practices in the Form of Regulations, Norway.

Finanstilsynet, (2014), Risk Weights for Mortgages. Estimation of Prudent Risk Weights for Mortgages.

IMF, (2015), The Use and Effectiveness of Macroprudential Policies: New Evidence.

IMF, (2013), Nordic Regional Report, Staff Report for the 2013 Cluster Consultation.

Kuttner and Shin, (2013), "Can Non-interest Rate Policies Stabilize Housing Markets? Evidence from a Panel of 57 Economies," *BIS Working Papers.*

Nordea Bank, (2015), Second Quarter Results.

Reinhart and Rogoff, (2008), Is the 2007 US Subprime Crisis so Different?

Sveriges Riksbank, (2015), Financial Stability Report, 2015:1.

Systemic Risk Committee, (2014), Sedlabanki, Iceland.

Tae Soo Kang, (2014), Presentation at Conference on Macroprudential Policy, Stockholm, November.

Strengthening Bank Supervision: The Need for Forward-Looking, Intrusive Supervision and a Supportive Supervisory Culture

Michael J. Zamorski

1. Background and Introduction

Effective bank supervision is a critical part of maintaining financial stability by promoting sound, stable, and resilient banks positioned to meet the productive credit needs of their customers, which is necessary to achieve sustainable economic growth. Reliable access to bank credit and risk intermediation services is especially important in emerging economies where capital markets are still developing.

The U.S./Eurozone Crisis of 2008-2009 (the Crisis) was the most significant period of global financial instability since the start of the U.S. Great Depression, nearly 80 years earlier. Studies of the Crisis have identified a long list of contributing causal factors. Many problems originated outside of the banking system. However, there were many bank risk management practices and risk cultures that did not provide effective checks and balances on excessive risk taking in the years immediately preceding the Crisis. Governmental policies also created incentives for excessive risk taking. Unfortunately, it is also evident that ineffective financial sector regulation and supervision contributed to the onset and severity of the Crisis.

In the aftermath of the Crisis, global bank regulators and standards-setters have pursued an extensive regulatory reform agenda. While these efforts are very important, they do not guarantee supervisory effectiveness. This article explores some of the root causes of the Crisis and other episodes of banking system stress, and discusses qualitative considerations that are important to ensuring the future effectiveness of prudential supervision.

2. Primary Prudential Supervisory Factors Contributing to the Crisis

Analyses of the Crisis have been made by the Basel Committee, the Financial Stability Board, the IMF, and various national bank supervisory authorities. Some frequently cited causal factors related to bank supervision methods and practices include:

- Failing to conduct on-site supervisory inspections or examinations at reasonable intervals and in sufficient depth.
- Use of off-site surveillance systems as a substitute for on-site examinations.
- Overemphasizing institutions' historic operating results and static financial conditions in assessing risk, not sufficiently stress testing potential vulnerabilities.
- Failing to identify ineffective bank risk management methods and governance structures, as well as other shortcomings in bank risk cultures.

- Failing to take timely and appropriate supervisory follow-up/remedial actions.
- Improper implementation of the concept of risk-based supervision.
- Allowing banks to operate with excessive leverage.
- Failing to consider that a build-up of macroeconomic risks and vulnerabilities could adversely impact a number of banks simultaneously, posing systemic risk.

Some expert industry observers and current and former regulators have also carefully studied the Crisis in an effort to get past its symptoms and focus on its root causes and their implications. In that regard, some noteworthy comments appeared last year in this *Journal* in an article by William M. Isaac, a former Chairman of the U.S. Federal Deposit Insurance Corporation. Mr. Isaac was a bank regulator during periods of significant banking system stress in the U.S. In his article he states: "None of these crises occurred because of lack of regulatory authority but rather the failure of regulators to use their authority effectively to rein in excessive speculation by financial institutions." He then pointedly asks "What regulatory authority did U.S. financial regulators not have to rein in the risks taken by financial institutions that precipitated the latest crisis? I cannot think of any."[1]

Thomas J. Curry is the current U.S. Comptroller of the Currency, overseeing the U.S. Office of the Comptroller of the Currency (OCC), an independent bureau of the U.S. Department of the Treasury. The OCC charters, regulates and supervises more than 1,600 national banks and federal saving associations, and federal branches and agencies of foreign banks, comprising about two-thirds of the assets of the U.S. commercial banking system.[2]

In 2013, Comptroller Curry commissioned an external study of the effectiveness of OCC's supervisory program preceding the Crisis. The study group that conducted this high-level process review was headed by Jonathan Fiechter, former Deputy Director, Monetary and Capital Markets at the IMF, and former Senior Deputy Comptroller for International and Economic Affairs at the OCC. Other study group members included highly respected current and former bank supervisors from the Australian Prudential Regulatory Authority, the Canadian Office of Superintendent of Financial Institutions, and the Monetary Authority of Singapore. The study group's report, entitled "An International Review of OCC's Supervision of Large and Midsize Institutions: Recommendations to Improve Supervisory Effectiveness," was issued December 4, 2013. Observations and conclusions that apply to other regulators include:

- "The team noted instances of a material lag between the identification of an emerging risk and the issuance of guidance or rules to address the risk. This puts the onus on examiners on the ground to try and contain the risks at the institution level."

- The OCC had teams of examiners resident in some of the largest banking organizations. The study group recommended that this arrangement be changed, where practicable, to have examination teams move out of the banks and be co-located in OCC offices. This would allow for better information- and experience-sharing by OCC experts on common risk issues and allow specialists to more efficiently perform work on multiple institutions.

- Some OCC examination staff below the Examiner in Charge was assigned to the same institution for many years. "Examiners may get stale and become too familiar with the (middle) management of the institution, giving rise to perceptions of regulatory capture. Supervisory effectiveness may be hampered as a result of lack of comparative experience in other institutions—examiners, lacking good comparators, may simply assume an institution's controls are adequate."

A thought-provoking analysis of Crisis lessons learned related to bank supervisory practices was published by the IMF in a 2010 Staff Discussion Note[3] entitled "The Making of Good Supervision: Learning to Say 'No'." The paper provides valuable insights on what it terms "the essential elements of good supervision." I believe it should be "required reading" for all bank supervisors. Key points made in the paper include:

- To be effective, supervision must be "intrusive, skeptical, proactive, comprehensive, adaptive, and conclusive." "For this to happen, the policy and institutional environment (of the regulatory authority) must support both the supervisory will and ability to act."

- Intrusiveness: "…supervisors must be willing and empowered to take timely and effective action, to intrude on decision-making, to question common wisdom, and to take unpopular decisions."

- "Supervisors are expected to stand out from the rest of society and not be affected by the collective myopia and consequent underestimation of risks associated with the good times. In this role, society and governments too must support this approach and stand by their supervisors as they perform this unpopular role."

The following commentary provides my personal observations on achieving supervisory effectiveness from having been a senior banking supervisor during several banking crises.

3. Critical Importance of On-site Supervision

The onset of the U.S./Eurozone Crisis in those jurisdictions most directly affected was characterized by an extended period of seemingly benign economic conditions. These circumstances induced complacency among some bankers and regulators, allowing less stringent bank risk management and supervisory practices to proliferate over time. Bank credit underwriting standards became relaxed, tending to overemphasize escalating collateral values (mostly real estate) and not focusing sufficient attention on assessing borrower repayment capacity under changing circumstances (sometimes dismissing

the possibility that collateral values could level-off or fall). Some banks' compensation schemes became tied to improper incentives, such as loan portfolio growth, without proper qualitative considerations, inducing imprudent risk-taking.

The primary way to proactively detect potentially unsafe and unsound practices and conditions is through a sufficiently intrusive on-site examination process that is "forward-looking." "Intrusive" means that on-site examiners conduct in depth, on-site reviews of bank records and documentation. These reviews form the basis for detailed discussions with senior executives and other personnel to clearly understand strategies, policies, and transactions, and the level and trend of the bank's overall risk profile. These close personal interactions provide important insights on the capabilities of the executive management team and the board of directors in managing risk, including the ability to cope with less favorable external circumstances such as an economic downturn. Policies and procedures may look good on paper, but their effectiveness is best determined by experienced bank supervisors who evaluate bank practices and condition by direct interaction and dialogue with bank management, through a "lens" of healthy skepticism.

4. Priority, Frequency and Scope of Bank Examinations

There are no universally applicable standards or guidelines pertaining to the priority, frequency and scope of on-site examinations. Practices vary among jurisdictions, but an annual, full-scope on-site examination seems to be a frequency that is generally regarded as reasonable.

Pre-Crisis, regulators in some jurisdictions lengthened their minimum on-site examination frequency to a much longer interval, or cut back on the scope of on-site examinations, believing that such action was justified by the extended period of favorable economic conditions that showed no signs of ending. De-emphasis of on-site examinations was motivated in some cases by budgetary pressures, with regulators reducing the size of their supervisory staff. This was a false economy as the cost of a properly resourced examination function is a small fraction of the direct and indirect costs of even a small banking crisis. The time for bank supervisors to be most vigilant is during "good times" when banking practices may become lax, leading to excessive risk in less favorable economic circumstances.

Post-Crisis, bank supervisors in some jurisdictions, in an effort to be "ahead of the curve" and be more proactive, have supplemented their regular bank examination programs by conducting "thematic reviews." This entails selecting a sample of banks and conducting on-site reviews focusing on a specific risk area or issue. For example, a thematic review could be conducted assessing commercial real estate lending risk. Bank examiners review each sampled bank's practices. Institution-specific issues requiring supervisory follow-up are handled in the same way as a regular examination. Common concerns emanating from all of the reviews may form the basis for industry alerts or policy guidance from the regulators to try and control these risks proactively, since many banks might not be scheduled to receive a near-term examination.

5. Adequacy of Examination Staff Resources

Inadequate examination staff resourcing is a problem that usually cannot be remedied quickly. Bank examiners typically develop their unique skills proficiency through a three to five year training program, which emphasizes on-the-job experiences supplemented by formal training. Basic skills proficiency includes a working knowledge of banking law, commercial and transactions law, accounting and auditing techniques, and "soft skills" such as interviewing techniques and the ability to effectively articulate and present examination findings to bank management and obtain commitments for remedial action. It is difficult to hire people in the employment market who possess all of these skills. Hiring entry-level, trainee bank examiners immediately preceding or during a crisis does not provide subject matter experts who can effectively assist in dealing with the crisis. If fact, they may impose a heavy training burden on an already over-extended staff operating under the pressure of simultaneously addressing many urgent problems and priorities. Therefore, supervisory authorities need to anticipate their longer-term human resource needs and plan accordingly.

Over the past twenty years, bank supervisors have adjusted their on-site supervision methods to engage in "risk-based supervision," which generally means that finite supervisory resources are prioritized by allocating/targeting them to the greatest areas of perceived risk, both in individual banks and in the banking system. Pre-examination planning is done with the clear understanding that the scope of examinations can be expanded if there are "red flags" detected or matters surfaced which require further analysis. Unfortunately, in the period preceding the Crisis, some bank supervisors' risk-based supervision programs failed to allow scope expansion when necessary, resulting in failure to detect and curtail the build-up of excessive risk. Also, some risk-based supervision programs became oriented toward reducing banking industry regulatory burden, rather than as a resource prioritization tool. This approach, characterized by some as "light touch" supervision, in some cases prevented the timely detection and remediation of excessive risk, even contributing to institutional failures.

6. Off-Site Surveillance

Off-site analysis can be a valuable screening tool for detecting "red flags" and outliers among supervised institutions. However, it is not a substitute for on-site examinations and the transaction testing and management interactions they provide. Financial data is usually submitted on a lagged basis and is based on bank management's self-reporting. Erroneous or overly-optimistic reporting (such as in loan loss provisioning or assumption-based asset valuations) can undermine its integrity and reliability. Also, periodic reporting provides very limited insight as to the soundness of bank risk management practices and corporate governance. However, off-site monitoring is a very valuable complement to the on-site examination process in influencing the timing and intensity of on-site supervision. Combining bank reported data with market surveillance/environmental scanning and management reviews can sharpen risk profiling and support more targeted examination risk-scoping.

7. Achieving Proactive Supervision

Supervisory effectiveness is greatly improved by reducing the time between risk identification and supervisory response, allowing "proactive" versus "reactive" supervision. Understanding the changing risk environment, financial industry innovation, and actual bank practices as close to "real time" as possible:

- allows earlier supervisory detection of abnormal risks at individual banks, enabling faster regulatory risk mitigation efforts;
- accelerates regulatory policy development related to emerging issues and changing risks;
- reduces the opportunity for regulatory arbitrage; and
- helps to prevent the proliferation of unsound practices or inappropriate risk selection that can destabilize individual institutions and the financial system.

What are some of the supervisory approaches that bank supervisors can employ to accelerate detection of abnormal risk or emerging policy and supervisory issues, as close to "real time" as possible?

- Conducting thematic or cross-sectional reviews of emerging or higher risk areas, to obtain actionable intelligence for related policy development or to issue industry risk alerts to influence bank risk-taking.
- Developing organizational feedback mechanisms to raise awareness of increasing institutional and industry risk and emerging issues. For example, some regulators have established regular interactions between their leadership and senior on-site supervisors to discuss emerging issues and risks, greatly accelerating any needed policy changes, issuance of industry risk alerts and consideration of new or revised regulations.
- Regular dissemination of information on emerging policy and risk issues to front-line supervisors.
- Conducting periodic industry forums to discuss current conditions and emerging issues and related regulatory expectations with the industry.
- Ensuring that bank regulatory risk rating systems are "forward looking" and consider institutional practices, and do not overemphasize current financial condition.

8. Challenges in Asia Pacific: Ensuring Effective Consolidated Supervision

Asia Pacific jurisdictions are both home and host supervisors for large, geographically dispersed banking organizations that are part of financial conglomerates operating across the region. Some of these conglomerates operate systemically important banks in more than one jurisdiction. Also, global banking organizations operate

extensive regional banking networks. The region has increasing financial integration and many close inter-linkages have developed over the last decade. Countries' sound implementation of consolidated supervision is, therefore, an important part of promoting regional financial stability, especially timely and effective cross-border information-sharing among supervisors.

Prior to the Crisis, some bank regulators focused on a "top down" consolidated view of risks within banking conglomerates, which included multiple bank subsidiaries. These banking organizations' risk management and reporting protocols provided consolidated information on bank subsidiaries' condition and performance. However, this approach can be problematic. A consolidated view of banks' risks may, for example, reflect adequate capital and liquidity, even if some subsidiary banks have weaknesses or problems on a stand-alone basis. This analytical approach also implicitly assumes that capital and liquidity within a banking group is "fungible," that is, it can be reallocated among the various subsidiaries at will. This is not the case. There are frequently legal restrictions on transactions with affiliates.

9. Conclusion

The Crisis clearly demonstrated that there is no substitute for a regular program of on-site inspections/examinations at reasonable intervals, conducted by seasoned, professional bank supervisors, performing an appropriate level of transaction-testing.

Supervisors need to take timely action to curtail and remedy objectionable and undesirable practices and/or conditions to control financial stability risk. They need to be supported by their organizations in the proper exercise of those actions. Bank examiners sometimes need to deliver constructive feedback and, at times, criticism to senior bank officials and boards of directors. This type of interaction, a necessary part of effective bank supervision, is not always well received, and occasionally generates complaints against examiners who are properly fulfilling their duties. Bank examiners need to know that they will be backed-up by their senior management when they receive bank management criticism and push-back in reaction to the proper exercise of their supervisory responsibilities.

Banking crises usually produce substantial new laws and regulations that attempt to address the perceived root causes of the crisis. While such reform efforts are important, no amount of new legislation can guarantee supervisory effectiveness without a supportive supervisory culture and effective supervisory methods. Supervisory authorities need to candidly assess whether their actual supervisory methods used are sufficiently robust and intrusive, and are effective in proactively detecting excessive risks or imprudent practices at their incipient stages.

Michael J. Zamorski has been an Adviser to SEACEN on Financial Stability and Supervision since 2012. He has extensive experience in financial institution supervision and was a bank Chief Risk Officer. As Director of Bank Supervision for the U.S. Federal Deposit Insurance Corporation (FDIC), he oversaw prudential and conduct of business supervision for 5,200 U.S. banks. At FDIC, he was also directly involved in helping to achieve an orderly resolution of more than 300 failing banks and thrift institutions. Mr, Zamorski also served as Managing Director, Supervision for the Dubai Financial Services Authority, a cross-sectoral regulator with supervisory responsibility for banks, reinsurers, collective investment fund operators, other financial services providers, and accountants and auditors. He was a member of the Basel Committee from 2000-2006 and of the Basel Consultative Group during 2009-2010.

Endnotes

1. Isaac (2014), p. 5.

2. Detailed information about the OCC's mission and activities is available at www.occ.gov.

3. This *IMF Staff Position Note* has a disclaimer indicating that the views expressed "…are those of the author(s) and should not be attributed to the IMF, its Executive Board or its management."

References

Basel Committee on Banking Supervision, (2012), Core Principles for Effective Banking Supervision, Basel: BIS, September.

Curry, Thomas J., (2015), "Financial Stability and Risk-Based Supervision: A View from the United States," *SEACEN Financial Stability Journal*, Volume 4, May.

Fiechter, Jonathan, et al., (2013), An International Review of OCC's Supervision of Large and Midsize Institutions: Recommendations to Improve Supervisory Effectiveness, December 4.

Genberg, Hans and Michael J. Zamorski, (2015), "Implementing Macro-Prudential Policies: Challenges, Pitfalls, and Way Forward," *SEACEN Financial Stability Journal*, Volume 4, May.

Isaac, William M., (2014), "Sound Financial Regulation Essential to Sustainable Financial Growth: We Can All Do Better," *SEACEN Financial Stability Journal*, Volume 3, November.

Mohd. Zabidi Mohd. Nor and Michael J. Zamorski, (2014), "Consolidated Supervision: Achieving a 360 Degree View of Bank Risk," *SEACEN Financial Stability Journal*, Volume 2, May.

The International Monetary Fund, Financial Sector Assessment Reports, Washington, D.C.: IMF, FSAP Reports and Supporting Documents Issued from 2001 to the Present, Available at: http://www.imf.org/external/NP/fsap/fsap.aspx

Vinals, Jose and Jonathan Fiechter, et al., (2010), "The Making of Good Supervision: Learning to Say 'No'," *IMF Staff Discussion Note,* SPN/10/08, May 18.

Zamorski, Michael J., (2012), "Post Crisis Strategies to Enhance Prudential Supervision and Regulation to Promote Financial Stability," Remarks at the 2nd CEMLA-SEACEN Conference, Punta del Este, Uruguay, 15 November.

Zamorski, Michael J. and Minsoo Lee, (2015), "Enhancing Bank Supervision in Asia: Lessons Learned from the Financial Crisis," *Asian Development Bank Economic Working Paper Series*, No. 443. Manila: Asian Development Bank, August.

Zamorski, Michael J. and Vincent Choon-Seng Lim, (2013), "Financial Stability Insights from Recent IMF/World Bank FSAP Assessments," *SEACEN Financial Stability Journal*, Volume 1, November.

Published twice a year by:
The South East Asian Central Banks (SEACEN)
Research and Training Centre
Level 5, Sasana Kijang, Bank Negara Malaysia
No. 2, Jalan Dato' Onn
50480 Kuala Lumpur
Malaysia

Tel: 603-9195 1888
Fax: 603-9195 1801 / 1802 / 1803

The **SEACEN** Centre

The South East Asian Central Banks (SEACEN)
Research and Training Centre

www.seacen.org