

Macro-prudential Policy and Bank Systemic Risk

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Abstract

The paper explored the issue of macro prudential policies in the light of empirical evidence on the determinants of bank systemic risk, and the effectiveness of capital controls. In many ways this reflects a step back in time towards sector approaches to monetary policy that were so prevalent in the 1960's, 1970's and early 1980's. Complexity and interdependence is such that proposals on these issues should be treated with care, until much more is understood about the issue.

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I. Introduction

The first references to macro-prudential policy were in closed meetings, such as in the Cooke Committee in 1979², which was the forerunner of the Basel Committee of Banking Supervisors (BCBS). The chairman noted that micro prudential issues were being interfaced with macro prudential issues. The concern was about bank lending globally in the face of high oil prices. He attempted to draw the boundary of supervisory interest as not in the macroeconomic problems per se, but how the latter had (and could) lead to bank problems not treatable with micro regulation. Lamfalussy around the same time explained that macro-prudential issues are problems that bear on the market as a whole, and may not be obvious in individual banks at the micro prudential level. The first public appearances of the term were in the Euro-currency Standing Committee (ECSC) report, and in the Cross Report, BIS (1986), where it merits an entire chapter. The introduction to the report launches into bank risks that are related to innovations, capital markets banking, derivatives, securitisation, large bank off-balance-sheet responses to investment banks, liquidity risk, and the under-pricing of risk. These developments might cause concerns—such as technology failures, the evaporation of liquidity in a crisis situation, and problems with counterparty risk that could have macro consequences and negative feedback loops on the macro economy. In short, the Cross Report sets on the table all the topics that were never adequately dealt with in subsequent years, and which resulted in the global financial crisis (GFC) of 2008 until the present.

The ‘macro-prudential’ term has taken on new meanings in more recent years. In the late 1990s, following the Asia crisis, the IMF focused more on the term and included indicators for it in their FSAP reports. The sense appears to be for a need to monitor financial developments that might lead to macroeconomic problems. A clearer definition of the macro-prudential term appears in Crockett (2000), who saw two strands to it: (i) the pro-cyclicality of the financial cycle, which called for a build-up of cushions in the good times that could be run down in the bad times (stabilisers); and (ii) institutions having similar exposures being interconnected with each other, which calls for the calibration of prudential tools with respect to the systemic importance of individual institutions. Crockett sees the distinction between macro and micro prudential not in terms of the type of instruments, but rather in “*the objective of the tasks and the conception of the mechanisms influencing economic outcomes*”. This seems a reasonable goal, but a decade or so later the FSB conceptualizes it more narrowly. In its 2011 paper on macro-prudential policy tools and frameworks the FSB defines macro prudential policy as one that: “uses prudential tools to limit systemic or system-wide financial risk” (FSB (2011)).

This is precisely where the problems start. If prudential tools are to be used for micro and macro policy making objectives then governance problems are going to become inevitable. Worse still, there may be conflicts in policy objectives whereby governments are lured into the belief that if it is not politically popular to get internal and external balance fundamentals right, then somehow these policy tools might be able to act as a way to square the circle. There are two broad strands to these thoughts:

- Monetary and fiscal policy failed to prevent the financial crisis at the systemic level, so now they are to be augmented by some prudential tools in the expectation that together they can succeed.
- The financial crisis and policies to deal with it in the West, including low rates and quantitative easing, have had spill-over effects in emerging market economies (EME’s), and it has become fashionable to believe that perhaps capital controls can be used to resolve these problems.

This paper looks at the first of these issues. The concept of macro-prudential policy and the requirements for its successful use is examined in section II: identification, calibration, tools, the

² See Clement (2010).

potential conflicts in objectives and the governance issues. Section III then provides some empirical evidence pertaining to the efficacy of macro-prudential policy to contain systemic risk in advanced economies, focusing on complexity and interdependence. Finally, some concluding remarks are provided in section IV.

II. Macro-prudential Tools to Counter Systemic Risk

There is enormous support for the idea that asset prices and the credit cycle have strong implications for systemic stability, and that there are limits to what inflation-focused monetary policy can achieve on its own. White (2012) focuses on the current monetary ease, which could have unintended consequences. Macro policy needs to lean more heavily into the wind and governments should use whatever tools they have right now to help restore macro equilibrium given the limits to what central banks can do. Borio (2012) reviews a wide range of literature and events and asks what we have learned from boom bust financial cycles. He focuses particularly on the interaction between credit and property prices: these are associated with cycles of wide amplitude and long duration compared to GDP, and they are inextricably linked with financial crises. Borio suggests modelling this with new approaches to the cycle in risk attitudes which are only loosely linked to underlying values and fundamentals (as opposed to model-consistent expectations in models). This fits nicely with the idea of macro-prudential policy, and the need to build buffers in the good times and to run them down in the bad times.

The process of financial deregulation recognized that monetary policy cannot operate via regulations and controls affecting sector behaviour, as used to be the case prior to the early 1980's. This combination of interest rate policy combined with a number of the old tools now being revived in the macro-prudential lists, and some new ones, is in some sense a step back in time. The new macro-prudential advocates appear to want to influence sector behaviour again, as these have been associated with systemic risks. In some sense the belief appears to be that the old tools and re-regulation, perhaps if used in a more intelligent way, may help better to achieve macro stability objectives in the future.

The main causes of systemic risk are financial institutions that engage in three broad activities: (i) credit intermediation; (ii) maturity transformation; and (iii) leverage. These activities extend well beyond banks, to what has been referred to as the shadow banking system, including importantly: hedge funds, insurance companies, real estate investment trusts (REITS), exchange traded funds, OTC derivatives, etc. The complexity is enormous, and the macro-prudential policy maker must be able to carry out four quite basic steps:

- The ability to identify imbalances before they become a problem;
- Select the appropriate prudential tool, or tools;
- Decide how to calibrate (data and modelling) and time the intervention;
- Coordinate all the responsible regulators and supervisors to bring it about, including achieving political support for the actions—and since the tools may vary from one situation to the next, a macro-prudential regulator will need to be involved in the coordination at both the domestic and international levels.

II.1. Identifying imbalances early

With respect to the first of these, the track record is very poor. Fundamentals are changing and innovations occur at such a pace that it has always proven difficult to decide what portion of the asset cycle is a fair value shift and what part is due to excess. These problems are particularly extreme in EME's, where strong investment demand must be financed and financial intermediation is in the early stages of development.

II.2. Choosing appropriate tools

The second requirement is to choose the appropriate tools. Even if authorities believe they can identify excess before it emerges, there are a vast number of tools that can be assigned, and different countries continue to choose those with which they are politically more comfortable. Some of these operate on relative prices and some on quantities.

For influencing financial institution balance sheets, where solvency and liquidity risks might be the source of systemic stability concerns, the policy tools include inter alia:

- Counter-cyclical capital buffers;
- Time varying systemic surcharges;
- Systemic capital surcharges;
- Systemic liquidity surcharges and supporting measures such as caps on loan-to-deposit ratios, the liquidity coverage ratio (LCR) the net stable funding ratio (NSFR);
- Capital surcharges on OTC derivatives not cleared centrally;
- A capital surcharge for global systemically important financial institutions (GSIFI's);
- Varying the capital plans of individual banks after stress testing exercises; and
- Dynamic provisioning.

Where non-bank borrowers and financial institution lenders are judged to be taking excessive risks the available tools include:

- Variations in require Loan/valuation ratios (linked to the house price cycle);
- Imposing caps on the ratio of debt-service-to-disposable-income ratios;
- Setting rules to avoid currency mismatches for borrowers and lenders;
- Ceilings on credit growth; and
- Rules on the reference interest rates for mortgage lending.

Where international interconnectedness issues are judged to be a source of instability in the domestic economy due to spill-overs—such as the current low rates in the West and quantitative easing policies, the tools include:

- Cross-border supervision; and
- Controls on international capital flows (with an emerging market economy --EME --focus).

Where counterparty risk and complex network effects are a source of systemic concern the favoured tools seem to be:

- Though-the-cycle variation of haircuts and margins;
- Limits on interbank exposures;
- Variations in Basel risk weights, such as the CVA charge; and
- Transactions taxes.

II.3. Data, models and calibration

The third requirement for successful macro-prudential policy is to be able to link the surveillance data and tools with models that correctly calibrate them and time interventions without creating new problems because of complexity and interdependence—interactions that are not well understood. The very influential Geneva Report, in Brunnermeier *et. al.* (2009) is a good example of an attempt at the assignment issues in macro-prudential policy. They propose the following:

- Micro-prudential policy consists of the Basel rules with a focus on the individual institutions, together with micro supervision. The domain of macro-prudential is large systemic institutions that are too big to fail (TBTF), and activities brought into effect by

covariance issues, such as herding behaviour. Insurance companies and ‘tiny-s’ are left out of the macro-prudential policy maker’s role.

- The central bank should have responsibility for macro-prudential policy, and the other supervisor for micro prudential (working in the context of coordination, with BCBS, FSB, etc.).
- The objective is to lean into the wind in the face of the macro-prudential assessed risk, based on: expanding leverage, rising maturity mismatch, excessive bank credit expansion, and asset price bubbles.
- The macro-prudential tool is the core-Tier 1 Basel ratio. Then a cyclical buffer or capital charge will be calibrated with a coefficient on that ratio relating it to the assessment of the macro-prudential-assessed risk.
- Real estate is singled out for special thought, and loan-to-value ratio caps are seen as a useful macro-prudential tool.
- Accounting issues and their links with liquidity are also stressed. A mark-to-funding valuation of assets is recommended, instead of mark-to-market—the latter applies with greater weight for very short-term funding and the weight on hold-to-maturity valuation rises for very long duration assets.

Goodhart (2011), one of the authors of the Geneva Report, has argued more recently that the first macro-prudential tool that a central bank should use is its own balance sheet—buying and selling claims on the public sector, the private sector and the foreign sector when it perceives asset cycles are a risk to macro stability.

II.4. Governance of the targets and instruments

In regard to the fourth requirement for successful macro-prudential policy, governance, it is likely that coordination issues will be problematic. The supervisors for banks and all of the shadow banks are different in most jurisdictions, and include central banks, prudential regulators, consumer protection agencies, federal level regulators, state level regulators and international regulatory bodies. The responsibility for any one of the above list of tools varies widely from one jurisdiction to the next, and there are overlaps of responsibilities within and between countries.

Furthermore, systemic problems are global in nature, yet data collection for surveillance tends to be on a national basis. The FSB has recently tried to survey the data collection problems for the shadow banking sector, for example, and have discovered many problems. First not all shadow banks may engage in risk activities that are of systemic concern, but since data holes are present it is difficult to know what is and what is not a problem. For example, hedge funds are estimated to have \$7tn under management, but data is not collected in all jurisdictions and little is known about their activities at a granular level. Furthermore, little is known about the interconnectedness of banks and shadow banks. Yet if the world is to move back into regulation with macro goals in mind, knowledge of these interactions will be crucial, since regulations always lead to new forms of disintermediation.

III. Evidence on the Efficacy of Macro-prudential Policy

Recent empirical work by the OECD looks at the effects of the macro cycle and business model features of banks on their systemic riskiness, and the complex interaction of these factors bears directly on the macro-prudential and monetary policy debate. The sample includes large banks that

have systemic importance. The measure of the riskiness of banks used in this empirical work is the distance-to-default (DTD), which uses a combination of bank reported data and market information to calculate the number of standard deviations a bank is from the default point. The default point occurs where the market values of assets equals the book value of debt (a standard deviation of zero). The formula to calculate the DTD is derived from the option pricing model of Black and Scholes (1973)³.

A panel regression approach is used to explain the differences in DTD's across banks over the period 2004-2012. The sample consists of the top G20 internationally active commercial banks and broker-dealer banks by equity market capitalisation, for those banks where all the data required is available. In addition, six banks that failed in the crisis, but which can be considered as GSIFI's, HBOS, Merrill Lynch, Lehman Brothers, Washington Mutual, Wachovia and Bear Stearns are included. This is essential, as they are the main banks of size whose assets were absorbed by others included in the sample—they act essentially as dummy variables for the M&A activity involved that would otherwise distort the results with breaks in the data on leverage ratios etc. There are a total of 90 banks in the sample, consisting of 26 FSB GSIFI banks (excluding non-listed banks), 6 failed former GSIFI banks, and 58 other large banks.

The empirical model takes account of systemic importance, leverage, and business model aspects. The model is estimated with two alternatives for leverage: the leverage ratio and the regulatory capital approach of the Basel Tier 1 ratio. The variables and results are shown in Table 1. LEV corresponds to the simple leverage ratio (total assets TA divided by core equity, with no risk weighting of assets, no netting of derivatives and US bank leverage is based on IFRS conversions), which is expected to have a negative sign. T1 is the Basel Tier 1 ratio based on risk-weighted-assets (T1/RWA), which is expected to have a positive sign. TD is the sum of the trading book and available-for-sale securities, and is expected to have a positive sign. The reason for this is that liquidity drives the banks' path to default in practice, when margin and collateral calls cannot be met. Liquid assets can be sold or used as collateral making a bank safer. WFD refers to wholesale funding as a share of total liabilities and is expected to have a negative sign—higher wholesale funding typically at a shorter duration is less stable than deposits for funding longer term assets⁴. GMV refers to the gross market value of derivatives as a share of the banks' total assets—appropriately converting all US banks to the IFRS concept for consistency. GMV is expected to have a negative sign—this is the quintessential interconnectedness variable where volatility drives rapid changes in margin requirements. BETA is a systemic importance variable, defined as the covariance of the firm's stock price with the national stock market, using daily data to calculate annual observations, divided by the variance of the national stock index. It is expected to have a negative sign, on the grounds that the firm is more connected to the national macro and asset price cycle. Finally, %HPI refers to the annual percentage change in the national house price index, and is expected to have a positive sign as rising prices improve a borrower's equity in the home and vice versa.

Causality in the model is tested with an error correction model shown at the bottom of the table: the DTD in the current year adjusts to gap between the actual DTD and its predicted level in the previous year. All of the error correction terms are large coefficients (rapid adjustment within the year) and are significant at the 1% level.

The results may be summed up as follows:

- The Basel Tier 1 ratio appears to find no support as a determinant of the DTD. The simple leverage ratio case is the preferred model, shown in the first column of the first data panel⁵. LEV is well determined at the 1% level, for all banks, for the GSIFI banks and for the other

³ See Appendix 1, Blundell-Wignall and Roulet (2012).

⁴ This is short-term (including repo) and some longer-term debt securities that need to be rolled—it excludes deposits, equity, subordinated debt and derivatives liabilities from total liabilities.

⁵ The T1 variable is not significant in any of the sub models, and these are not shown for simplicity.

large bank panels. A cut in leverage from say 50 (not un-typical of a GSIFI bank) to the OECD preferred maximum of 20 would raise the DTD by 1.2 standard deviations.

- The macro control variables in house prices and the market BETA are correctly signed and significant at the 1% level, across all models.
- In terms of arguments relating to the business model, the GMV of derivatives and wholesale funding have the expected negative signs and are significant at the 1% level for the full sample and for the GSIFI group. GSIFI banks with derivatives exposure of over 40% of their balance sheet (e.g. banks that engage in prime broking, etc.) are quite common and are of fundamental systemic significance. The OECD recommends separating those banks that undertake prime broking, market making, underwriting and origination once they exceed a GMV derivatives threshold of 10% of the balance sheet. A reduction from 40% to 10% would raise the DTD by 1 standard deviation using the full sample model and by 1.4 standard deviations using the GSIFI model.
- Wholesale funding is negatively linked to the DTD: a 20 percentage point cut would raise the DTD by 0.5 standard deviations.
- Trading assets have the expected positive sign that find support at the 5% level for the full sample and the GSIFI banks, but not in a sample of traditional banks that excludes the GSIFI's. A 20 percentage point rise would raise the DTD by 0.9 standard deviations.

Table 1: Determinants of Bank Distance to Default: Multi-variate Panel Results

	All banks		G-SIFIs banks	Other large banks
Constant, α	8.17 *** (7.15)	6.74 *** (4.75)	11.21 *** (6.94)	6.55 *** (8.72)
LEV: TA/Bank Equity	-0.04 *** (-3.30)	-	-0.03 *** (-3.21)	-0.05 *** (-2.53)
T1: Basel Tier 1 Ratio	-	2.24 (0.58)	-	-
TD: Trading Book plus Available for Sale Securities/TA	4.51 ** (2.06)	3.72 (1.47)	3.34 ** (2.16)	3.79 (1.51)
WFD: Wholesale Funding/Total Liabilities	-4.14 *** (-3.04)	-4.54 ** (-2.31)	-6.78 *** (-2.47)	-1.81 (-1.30)
GMV: GMV of Derivatives/TA	-3.48 *** (-2.42)	-5.39 ** (-2.21)	-4.79 *** (-3.02)	-3.26 (-0.37)
BETA: CoVar Bank Stock Ret. with Ntl. Mkt Ret./Var. Mkt	-1.47 *** (-5.36)	-1.33 *** (-3.61)	-2.61 *** (-4.75)	-1.21 *** (-3.47)
%HPI: House Price Index ann. % change	16.29 *** (4.98)	17.45 *** (4.12)	20.10 *** (6.70)	17.32 *** (4.75)
DUM_MA: Dummy equals to 1 following M&A, else 0	-	-	-	-
R²	0.69	0.65	0.73	0.67
Fisher Statistic	11.25	9.47	12.58	9.76
P-Value F	0.00	0.00	0.00	0.00
Total Observations	569	569	201	368
VECM 1 Year lagged residual (Engel & Granger test)	-0.85 *** (-17.72)	-0.85 *** (-18.01)	-0.78 *** (-11.05)	-0.90 *** (-14.20)

Note: This table shows the results of estimating multi-variate regressions for an unbalanced panel of 108 U.S. and European internationally active commercial banks and broker dealers with equity market capitalization in excess of \$5bn over the period 2004-2012. Cross-section and time fixed effects are used in the regressions as is the White diagonal covariance method. *, ** and *** indicate statistical significance at the 10%, 5% and 1% levels, respectively. The VECM error correction results show adjustment of the current DTD to the previous year gap between the predicted and actual values, allowing one lagged innovation in the standard model. See Ericsson (2002).

III.1. Macro-prudential policy and the DTD model results

The potential role for monetary policy and perhaps also for macro prudential policy is supported by the data in this study, given the strong panel regression results for the influence of house prices and BETA. An unexpected fall in house prices of 10%, for example, might be expected to reduce the DTD by 1.6 standard deviations (a bad thing). Asset price mechanisms of that order of magnitude can push a vulnerable bank with a low DTD past the zero point. The results here are consistent with the literature relating to macro policies to lean against cycles in asset prices, were there to be no impediments to such policies via cycle identification and model calibration issues.

Table 2 shows correlations of variables identified by the model as having high systemic significance for bank safety, and three monetary policy variables: the change in US short rates; the change in US long rates; and the per cent change in the dollar value of the sum of central bank liabilities in the USA, UK, and Europe.

Table 2: Correlations of Model-identified Variables and Monetary Policy Variables

	LEV	%T1	TD	WFD	GMV	%HPI	Diff_10Y GB USA	Diff_3M LIBOR USD	%CB_TA
LEV	1								
%T1	-0.06 0.08	1							
TD	0.54 0.00	0.02 0.62	1						
WFD	0.30 0.00	-0.02 0.53	0.27 0.00	1					
GMV	0.53 0.00	0.11 0.00	0.67 0.00	0.21 0.00	1				
%HPI	0.06 0.06	-0.16 0.00	0.04 0.24	0.09 0.01	-0.04 0.31	1			
Diff_10Y GB USA	0.01 0.73	-0.15 0.00	0.06 0.08	0.05 0.16	-0.07 0.06	0.54 0.00	1		
Diff_3M LIBOR USD	0.09 0.01	-0.28 0.00	0.03 0.30	0.03 0.30	-0.02 0.66	0.55 0.00	0.38 0.00	1	
%CB_TA	0.09 0.01	0.04 0.28	-0.02 0.45	0.01 0.71	0.08 0.03	-0.26 0.00	-0.56 0.00	-0.13 0.00	1

Source: OECD. A p-value at less than 0.01 implies significance at the 1% level; less than 0.05 at the 5% level; and less than 0.1 at the 10% level.

The use of the last three macro and monetary policy variables assumes: a key role for USD Libor globally; the high correlation of all bond markets with US bonds; and the fungibility of the use of central banks cash between large financial institutions. The change in the Tier 1 ratio is also included, on the grounds that while its level has no direct relevance for the DTD, as noted in the above results, its change directly influences the amount of capital held and might have a role as a counter-cyclical buffer affecting the asset price and leverage cycle. This was the key variable for macro-prudential selected in the Geneva Report. P-values are shown under the correlation coefficient. The main features of the correlations are:

- The three monetary policy variables are most highly correlated with the per cent change in the national house price indexes. While no causality is implied, it is clear that rising house prices are associated with rising interest rates, and tightening central bank liabilities, and vice versa. This is consistent with leaning-into-the-wind monetary policy taking into account the key housing asset price cycle.

- The change in the Tier 1 ratio appears to be negatively related to the house price index variable, (an increase in Tier 1 is associated with a weaker asset price cycle) which suggests it too has not been inconsistent with a leaning-into-the-wind additional influences on the house price cycle.
- However, the change in the Tier 1 ratio is also highly significantly correlated with the GMV of derivatives in a perverse way. That is, a tightening up of the T1 ratio is associated with the increased use of derivatives in off-balance sheet products, CVA desk arbitrage, and other forms of regulatory arbitrage that banks use to reduce capital charges and increase their ROE's. The GMV of derivatives variable has one of the biggest independent influences on the DTD. In short, the T1 variable may be associated with helping to improve the DTD in the asset cycle arguments of the model, but it is also associated with other activities that are damaging to systemic stability.
- All three business model influences on the DTD, (the GMV of derivatives, wholesale funding, and trading securities) are correlated with each other, and to leverage, but they aren't correlated with monetary policy, and they are perversely correlated to the Tier 1 ratio. This block of influences on the DTD must be treated separately from macro-prudential considerations.
- The above results for the DTD of traditional banks (excluding GSIFI's), on the right hand side of Table 1, show that the business model features related to securities markets play no role at all. Leverage, size and the two macro prudential influences are the main drivers of the DTD for traditional banks. But while countercyclical rules may be effective in this traditional bank segment of the market, those same policies will interact with the GSIFI bank group, where destabilising factors can come into play.
- The OECD has long recommended separating off securities businesses that engage in activities such as prime broking, market making, underwriting and origination. This would pave the way for more effective macro-prudential policy for core deposit banking.

The above results suggest that there is huge complexity and interdependence in the financial system, and hence the calibration of macro-prudential policy may be more difficult than simple counter-cyclical rules based on a clearly defined reference vehicle (e.g. a focus on an asset price or a credit variable). In essence, dealing with a problem in one area may push imbalances into other areas.

V. Conclusions

This paper has focused on the complexity of macro-prudential issues in the face of bank systemic risk in advanced countries. The influences on bank systemic risk from multiple sources (the asset cycle, the business models of banks, leverage and time varying capital rules) are complex and interdependent. This suggests that much care should be undertaken with respect to macro-prudential policy, and precise policy assignments must be put to one side until more work is done to better understand all the interactions:

- Changes in the Tier 1 capital ratio appear to be associated negatively with the housing price cycle, which is appropriate for macro-prudential policy in this sector. But such changes in T1 are also clearly associated the wrong way with derivatives activity, which play a role in securitization, regulatory arbitrage and the creation of new synthetic products.
- Variations in the T1 ratio are negatively correlated with monetary policy. This is a concern, because it likely reflects macro-prudential policy being thought of as a partial substitute for monetary policy. The risk here is that policymakers might believe they can avoid taking difficult monetary policy decisions.

- Derivatives and wholesale funding (negative influences on bank's DTD) and liquid trading securities (a positive influence), merit consideration for policy treatment, given the power of the above DTD model results. These activities are correlated to each other, and related to business model issues. They are not correlated with monetary policy, and systemic risks from this source can't be treated with macro-prudential policy. A successful macro-prudential policy for core deposit banking functions would be enhanced by separating these activities from securities businesses. If this is not done, the macro-prudential policy measures may set off interactions that are in conflict with each other so that the net benefits are ambiguous.
- The OECD recommends such separation via a non-operating holding company structure, once a bank's holdings of derivatives (GMV) rises above 10% of the IFRS balance sheet—that is, the bank is moving into prime broking, market making underwritings and origination in these areas—well beyond anything required to hedge their own portfolios. The OECD proposal is focused on getting the risks priced properly within the private sector by explicitly eliminating TBTF cross-subsidisation of risk taking in universal banks. Ring-fencing the core deposit-taking bank, and having all the other non-bank subsidiaries not supported by lender-of-last-resort, fully resolvable, and whose creditors cannot chase the assets of other members of the group, would ensure appropriate margin and custody policies automatically without civil servants prescribing what they should be (as implied by some of the tools noted above). This would perhaps pave the way for non-destabilising macro-prudential policy for the core deposit taking sector of the banking system.

There is a temptation to believe that reverting to macro-prudential policies with a sector focus, so prevalent in the 1960's, 1970's and early 1980's, will help resolve issues that arose out of the financial crisis in both advanced and emerging countries. However, the world has become much more complex and more interdependent. This paper cautions that stepping back in time with a sector approach to monetary policy may risk countries not getting the right fiscal and monetary policy balance, the requisite need for exchange rate flexibility and the much needed structural reforms.