

Banking after regulatory reforms – business as usual?

BANKING AFTER REGULATORY REFORMS – BUSINESS AS USUAL?

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Authors: Javier Arribas Quintana, Mattias Levin and Elleonora Soares, Jukka Vesala, Alan S. Blinder, Erkki Liikanen, Paul Tucker

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1. INTRODUCTION

Esa Jokivuolle and Jouko Vilmunen

The 5th SUERF/Bank of Finland joint conference was held in Helsinki on 13 June 2013. The general theme of the conference was to focus on the regulatory reforms after the global financial crisis and, in particular, how structural reforms of banking (“Volcker, Vickers and Liikanen”) could still complement them. The working hypothesis for the conference was that regulatory changes are likely to affect banks’ business models, and regulations on banks’ structure would interfere with business models most directly. This volume comprises five chapters which are based on the key policy oriented presentations in the conference.

Chapter 2 by Javier Arribas Quintana, Mattias Levin and Elleonora Soares (European Commission), “*Structural measures to improve the resilience of the EU banking system*”, updates the conference presentation by Mario Nava (European Commission) regarding the regulation of EU banking structures. Their chapter is based on the European Commission’s Proposal on banking structural reform released on 29 January 2014. The chapter highlights that the goal of the Commission’s proposal is to further improve the resilience of EU credit institutions. The proposal is the Commission’s response to the report of the High-level Expert Group (“Liikanen report”) on reforming the structure of the EU banking system. The Liikanen report, published in October 2012, recommended that the largest and most complex EU banks should be required to separate certain high-risk trading activities. The chapter places the proposals in the wider context of pre-crisis developments of the EU banking sector. It starts with the impact of the financial crisis, and considers the financial regulatory reforms that followed. The authors argue that irrespective of the already agreed regulatory reforms, further measures are necessary to deal with the residual risks of the small number of very large banks that remain too-big-to-fail, too-costly-to-save and too-complex-to-resolve. They then recapitulate the rationale behind the main structural measures, and conclude by looking at the potential market structure changes towards which the proposal might contribute.

Chapter 3, by Jukka Vesala (ECB) deals with “*Regulatory and resolution measures needed to foster market discipline*”. The chapter focuses on how to move from bail-out to bail-in policy, even in the case of the largest banks, by developing the resolution mechanism. This is a major challenge in Europe, which has a history of bank bail-outs. Vesala points out that bank resolution is by nature discretionary. So what can be done to enhance market discipline? According to Vesala, resolution needs clear ex ante rules and certainty of implementation when

there are bank failures. He suggests that two-stage bail-in instruments could be useful. First, banks should have obligatory debt instruments which at a given trigger point before the resolution point either convert into equity or absorb losses. Second, an all-inclusive bail-in of debt instruments could take place at the resolution point. In Vesala's view bail-in debt instruments, instead of the corresponding amount of equity, are needed especially for market discipline. He also supports depositor preference for the protected part of deposits, and calls for higher non-risk-based capital requirements in trading activities. These should come on top of the risk-based requirements in order to retain banks' incentives to develop risk measurement further. Vesala also writes that a Single Resolution Mechanism is needed in Europe for cross-border bank failures.

In Chapter 4, Alan Blinder (Princeton University) writes about "*Guarding against systemic risk: the remaining agenda*". His main point is that not enough has been done in reforming financial regulation. Finance seems not to be self-regulating, and losses have most likely exceeded efficiency gains from financial engineering. His list of remaining regulatory tasks includes the following parts. First, a resolution authority for SIFIs (systemically important financial institutions) is needed. Second, the work of the systemic risk regulator is still in its infancy and needs to be developed. Third, more capital and liquidity are needed in the banking system. Fourth, he sees that reforming the derivatives market is a slow process because the industry is fighting back. More standardization is necessary, and also global harmonization is needed because derivatives trading can easily change location. Fifth, regulating bankers' compensation has focused too much on level and less on incentives. He also notes that far too little has been done on how rating agencies are compensated, in order to correct their distorted incentives. Lastly, he comments on the structural reform proposals. He writes that the three main proposals – Volcker, Vickers and Liikanen, are 'first cousins', who all seek to separate insured deposits from risky trading, an aim with which he agrees. He stresses that preventing downstreaming of capital from the parent to the trading subsidiary is essential. He would not be so worried about trading moving to hedge funds as they play largely with their own money, not with other people's money. It is just important to regulate hedge funds that become SIFIs.

In Chapter 5, Governor Erkki Liikanen elucidates "*On the size and structure of the banking sector*". The chapter reflects the views and ideas from the Liikanen report on reforming bank structures. It starts by surveying views on the relationship between financial development and economic growth. The crisis itself, as well as, *e.g.*, recent BIS research has questioned the economic benefits of expansion of the financial sector beyond a certain point. This is a markedly different view from the one that prevailed before the crisis. Concerning the factors which may drive excessive financial expansion, he mentions several

possible reasons including, in particular, also market expectations of too-big-to-fail institutions. Such institutions seem to benefit from relatively cheap funding. He writes that no one knows what the optimal size of financial markets or individual institutions should be, but what should be done is to limit incentives which may drive their excessive growth. This is largely what the High-level Expert Group on EU bank structures (chaired by the author) focused on in its proposals.

The final chapter by Paul Tucker (Deputy Governor, Bank of England) focuses on “*Banking Reform and Macroprudential Regulation: Implications for banks' capital structure and credit conditions*”. He emphasizes two things: a richer capital structure for banks, and the use of macro-prudential policies in accordance with prevailing credit conditions. Further, resolution is the necessary antidote to the too-big-to-fail problem, and requires proper legal rights. On bank capital, Mr. Tucker notes that the famous Modigliani-Miller irrelevance theorem does not literally hold for banks in particular, mainly because of the tax advantage of debt, and the property of deposits that they are a liquidity product. These factors give rise to incentives to high leverage in banking. However, bankruptcy costs are especially high for banks, taking also account of their social aspect. Because of these costs, standard capital structure theory advises to decrease bank leverage. He sketches a capital accord for the future with several layers. Mr. Tucker stresses that *long-term* debt can provide a basis for market discipline. He also considers macro-prudential policy. He presents a heuristic analysis of the effect of the UK’s Financial Policy Committee’s (FPC) hypothetical decision to change the overall capital requirement on banks, hinging upon the market’s view of the FPC’s current analysis of the credit conditions in the economy. Mr. Tucker concludes that as we reduce the too-big-to-fail problem, there will be more diversity in credit supply as more non-banks start providing long-term finance.

Banking might be in the process of soul-searching after a traumatizing crisis, and better regulations and structures could help it find the more stable way to do business. The SUERF Study at hand compiles writings by leading policy makers and experts on the matter. We hope that readers will find their views and insights highly interesting.

2. STRUCTURAL MEASURES TO IMPROVE THE RESILIENCE OF THE EU BANKING SYSTEM

Javier Arribas Quintana, Mattias Levin and Elleonora Soares^{1,2}

2.1. INTRODUCTION

On 29 January 2014, the European Commission (the ‘Commission’) adopted a proposal on structural measures improving the resilience of EU credit institutions³. This constitutes the Commission’s response to the report of the High-level Expert Group on reforming the structure of the EU banking system, which in late 2012 recommended that the largest and most complex EU banks should be required to separate certain high-risk trading activities⁴. This article places this proposal in the wider context of pre-crisis developments of the EU banking sector, the impact of the financial crisis, and the ensuring financial regulatory reform. We argue that irrespective of these reforms, further measures are necessary to deal with the residual risks of the small number of very large banks that remain too-big-to-fail, too-costly-to save and too-complex-to-resolve. We then briefly recapitulate the rationale behind the main measures and conclude by looking ahead, notably at the market structure changes that the proposal might contribute towards.

2.2. A LARGE AND INTEGRATED BANKING SECTOR DOMINATED BY A SMALL NUMBER OF VERY LARGE BANKS...

In Europe, the financial needs of households and firms are predominantly serviced by banks. The EU banking system is as a result large in comparison to those of other major developed economies (*e.g.* in the EU bank sector assets constitute nearly 350% of GDP compared to 78% in the US and 174% in Japan)⁵.

¹ Opinions expressed are those of the authors only and do not necessarily reflect those of the European Commission. The article builds on work by a large team of people spanning several units. The authors would like to thank all involved and in particular Cedric Jacquat, Marjut Leskinen, Stan Maes, Dimitrios Magos, Massimo Marchesi and Martin Spolc as well as Niall Bohan, Alain Deckers, Miguel de la Mano and Mario Nava.

² *SUERF / Bank of Finland Conference, 13 June 2013 – Banking after Regulatory Reforms – Business as Usual?*

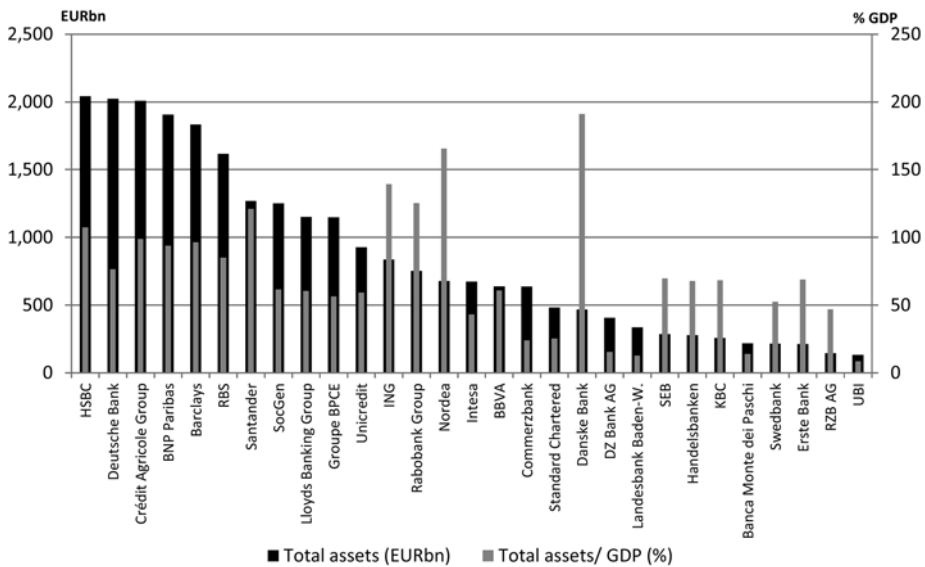
³ European Commission (2014). http://ec.europa.eu/internal_market/bank/docs/structural-reform/140129_proposal_en.pdf.

⁴ High-level Expert Group (2012). http://ec.europa.eu/internal_market/bank/docs/high-level_expert_group/report_en.pdf.

⁵ European Banking Federation (2011).

While the EU banking system is made up of more than 8,000 banks that have different business models, it is nevertheless dominated by a limited number of very large, cross-border banking groups that provide a full and diversified range of services. These banks have large balance sheets in both absolute terms and relative to the national economy of their home states (Chart 2.2).

Chart 2.1: Size of selected EU banks (2012 assets in € billion and as% of national GDP)



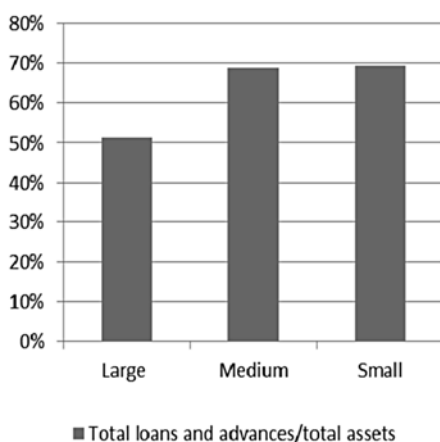
Source: SNL Financial (total assets), Eurostat (GDP)

While this importance sometimes has long-standing roots, the accelerating liberalisation of trade and capital flows since the 1970s further spurred demand for cross-border financial services, both to accompany corporate expansion and to provide risk management services. To offer an effective provision of services in such a context, banks sought to exploit perceived economies of scale and scope by consolidating, initially within national borders, then beyond. These developments were accentuated in the decade or so preceding the financial crisis and have been particularly pronounced in the European Union (EU), given the free movement of goods, services, capital and labour enshrined in the EU Treaty and the Single Market.

2.3. ...CHARACTERISED BY MORE TRADING AT THE EXPENSE OF LENDING...

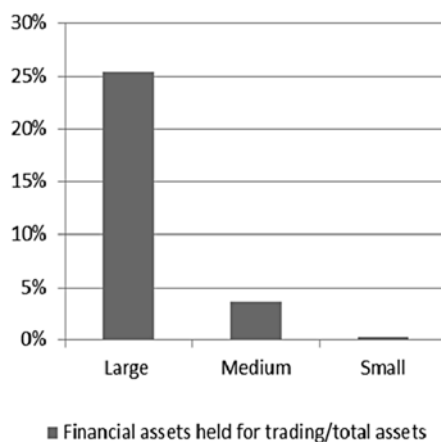
The deepening of financial markets in recent decades has also enabled banks to trade more and take larger trading positions. This is associated with higher associated profits in the good times, but comes with higher risks, which may compromise bank stability in the bad times. Research suggests that this has destabilised banks by introducing a trading and fee-based culture in large banking groups. As a percentage of total assets, smaller banks tend to engage more in traditional commercial banking business, resulting in a balance sheet that has more loans (chart 2.2) and fewer assets held for trading (chart 2.3) compared to larger banks.

Chart 2.2: Importance of loan making for EU banks (2011)



Source: ECB consolidated banking data.

Chart 2.3: Importance of trading activity for EU banks (2011)

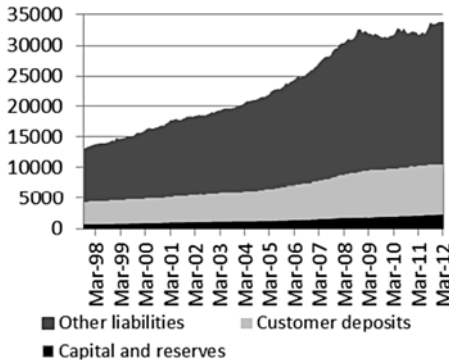


Source: ECB consolidated banking data.

The shift towards a transaction-oriented banking model and the corresponding increase in trading has been one of the major reasons of the growing size of bank balance sheets in the years leading up to the financial crisis (see charts 2.4 and 2.5 below). Much of the growth was driven by intra-financial-sector borrowing and lending, rather than real economy lending.

Furthermore, as the expansion of bank balance sheets outpaced GDP growth and hence could not be funded by retail funding sources which are more tightly linked to GDP growth, it increasingly pushed large banking groups towards short term wholesale funding (repo, money market funds, interbank borrowing, etc.).

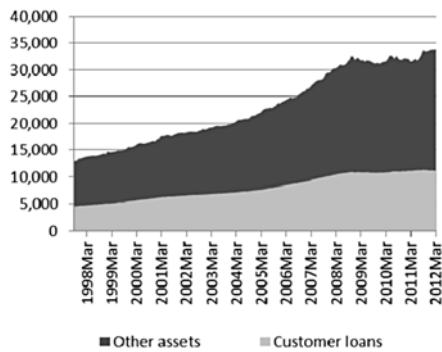
Chart 2.4: Evolution of liabilities
1998-2012 (euro area, EUR billion)



Notes: Customer deposits are deposits of non-monetary financial institutions excluding general government.

Source: ECB data.

Chart 2.5: Evolution of assets 1998-2012
(euro area, EUR billion)



Notes: Customer loans are loans to non-monetary financial institutions excluding general government.

Source: ECB data.

2.4. ...FUELLED BY IMPLICIT SUBSIDIES

Deregulation, integration, deeper capital and financial markets and relative profitability have all contributed to the expansion of trading observed in all of the largest banks. However, the expansion in trading has also been fuelled by the implicit subsidies enjoyed by the largest and most complex banks due to perceptions of the difficulty of these banks failing in an orderly manner and the high likelihood that the state as a result will come to the rescue should problems arise in order to protect depositors and ensure the continuous provision of core banking services⁶. In the absence of restrictions on intra-group economic flows, the economic benefits resulting from such subsidies extend to the group as a whole. For example, integrated banking groups benefit from access to intra-group deposit funding that stable, long in duration, less risk sensitive and explicitly guaranteed. Moreover, banks issuing debt to fund investment bank activities pay a blended interest rate, as bank investors take into account the non-investment bank part of the bank⁷. Furthermore, in the absence of legal and organisational requirements core banking services may be comingled with other

⁶ The impact assessment accompanying the proposal estimates that implicit public subsidies enjoyed by the largest European banks that jointly represent 60-70% of EU assets amount to approximately EUR 72-95 billion and EUR 59-82 billion in 2011 and 2012 respectively. These estimates done by the Joint Research Centre (JRC) of the European Commission as well as an extensive review of the relevant literature are provided in Annex A4.1 and A4.2 of the Impact assessment. http://ec.europa.eu/internal_market/bank/docs/structural-reform/140129_annex-1-impact-assessment_en.pdf.

⁷ See e.g. HLEG (2012), p. 90.

activities, rendering the task of resolution authorities more difficult. This further increases implicit subsidies.

2.5. THE FINANCIAL CRISIS – EXPOSING WEAK BANKS AND A FRAGILE SYSTEM

The financial crisis has clearly illustrated the impact on financial stability arising from an ever more global and integrated financial system with ever larger and interconnected units of financial service providers. Governance arrangements (regulation, supervision) have clearly struggled to keep pace.

While several of these banking groups have weathered the crisis well, they were helped by extraordinary and unprecedented sector-wide state support. Without state support the EU financial system would have faced a far worse banking crisis (European Commission (2011, 2012)). The taxpayer support to date that benefit the EU banking sector amounts to 40% of EU GDP and has undermined the solidity of several Member States' public finances⁸.

The developments depicted above were at the root of the financial crisis. Capital market-based activities contributed to the failure of major banks in Europe. The majority of the large and complex EU financial institutions that received state support in 2008 and 2009 had trading income to total revenue ratios that were relatively large. For example, having analysed a sample of large and complex EU banking groups, IMF research suggests that almost 80% of all supported banks that received official support in 2008/2009 traded significantly more than average (Chow and Surti (2011)).

2.6. REFORMS TO DATE – EFFECTIVE UP TO A POINT

The EU has already initiated a number of reforms to increase the resilience of banks and to reduce the probability and impact of bank failure. These reforms include measures to strengthen banks' solvency (the capital and liquidity requirements part of the CRR/CRD IV package); measures to strengthen bank resolvability (the proposed BRRD); measures to better guarantee deposits (the revision of the Deposit Guarantee Schemes directive, DGS); measures to improve transparency and address the risks of derivatives and to improve market infrastructures (European Market Infrastructure Regulation, EMIR) and related

⁸ In the case of some Member States it has contributed to turn a banking crisis into a sovereign crisis (European Commission (2011, 2012)). This has had the effect of further increasing the fragility of the banking system since banks hold large volumes of sovereign bonds on their balance sheet and since some of their funding sources are explicitly or implicitly insured by their sovereign.

revisions to the Markets in Financial Instruments Directive, MiFID). Additionally, in order to break the negative feedback cycle between the sovereign and banking risks and to restore confidence in the euro and the banking system, a banking union, building on the single rulebook, is under construction and will further centralise responsibility for supervision and resolution.

Even so, despite this broad-ranging reform agenda there are a number of reasons why further measures are needed to reduce the probability and impact of failure of the limited subset of TBTF banks. Such measures have global support, as evidenced by recent statements by G20 leaders and ministers⁹. More particularly:

- As regards the probability of failure, banking is inherently unstable and prone to liquidity and solvency shocks. Banks are therefore required to put in place adequate shock absorbers, in the form of liquid assets that can be sold without loss to meet unexpected cash outflows and in the form of sufficient own funds to absorb potential losses. The CRR/CRD IV reform package has increased the required quantity and quality of such funds and will thus enable banks to absorb more losses before defaulting¹⁰. However, capital requirements are not a panacea and there are limits to what they can achieve. For example, addressing remaining TBTF problems by means of higher capital requirements would not address the fundamental inconsistency of on the one hand ‘taxing’ systemic risk and excessive trading with high capital requirements while at the same time allowing these activities to be performed by entities that enjoy explicit coverage of public safety nets. Furthermore, irrespective of the changes to the market risk capital requirements that increase the amount of capital that is required, banks still have significant incentives for engaging in trading activities given the particularly substantial profits of such activities¹¹.
- As regards impact of failure, implementation of the BRRD will pave the way for the orderly resolution of normal EU banks and thus significantly reduce the impact of failure of such banks on public finances. Even so, the resolution powers will be challenging to exercise for TBTF banks, given their particularly large, complex and integrated balance sheets and

⁹ G20 Leaders, September 2013: “We recognize that structural banking reforms can facilitate resolvability and call on the FSB, in collaboration with the IMF and the OECD, to assess cross-border consistencies and global financial stability implications.”

G20 Ministers, October 2013: “We will pursue our work to build a safe and reliable financial system by implementing the financial reforms endorsed in our Leaders’ Declaration, which are aimed at building upon the significant progress already achieved, including in creating more resilient financial institutions, ending too-big-to-fail, increasing transparency and market integrity, filling regulatory gaps, addressing the potential systemic risks from shadow banking and closing information gaps.”

¹⁰ EU banks have strengthened their capital position since the start of the crisis, partly by raising new capital but to a large extent by reducing risk weighted assets.

¹¹ See Annex A5 of the impact assessment accompanying the Commission’s legislative proposal, “Analysis of possible incentives towards trading activities implied by the structure of banks’ minimum capital requirements”, European Commission, Joint Research Centre (2014).

corporate structures. As a result, while the potential for eventual public support is certainly reduced, it may still not be eradicated if the powers are not in fully applied and the impact of a failure of a large and complex bank may therefore still be significant. Furthermore, while the resolution planning offers a vehicle to address potential impediments to resolution, it is built on judgement by authorities in individual cases. In the absence of further guidance, it might be difficult for authorities to exercise its discretionary judgment and impose *e.g.* a divestment of a part of a large and complex diversified banking group, especially if other authorities are not responding with similarly harsh measures in comparable cases¹². All this may explain market perceptions of remaining implicit subsidies and call for further clarity as regards potential additional structural measures¹³.

2.7. BANK STRUCTURAL REFORMS – A NATURAL COMPLEMENT

While capital requirements and resolution powers are accordingly essential and necessary instruments to reduce the probability and impact of bank failure, they are unlikely to be sufficient to fully address the TBTF problem. Bank structural reforms are a natural complement:

- structural bank reforms *complement the reforms related to capital requirements* by imposing direct constraints on specific activities, as opposed to capital requirements that depend on the riskiness of the individual entity and/or of the consolidated group. Structural reform would also be a more direct way of making sure that insured deposits are not used freely throughout integrated groups to fund transaction-oriented activities that are not customer-oriented and hence should not benefit from the implicit government support. It could also complement the systemic risk charges for systemically important banks by adding another disincentive towards banks excessively expanding their risky trading activities, thus putting a break to the main source of unsustainable bank growth in recent years;

¹² EBA (2012).

¹³ See *e.g.* Moody's (2013) assessment of the BRRD: "*Taken at face value, the draft is credit-negative for senior unsecured creditors of the roughly two-thirds of EU banks whose ratings incorporate some level of systemic support uplift. It is unlikely we would remove all systemic support from every EU bank's rating in the foreseeable future, but a change to our assumptions would imply lower ratings for some or all banks. However, there are a number of important areas in which we need greater clarity before we can take a definitive view on the implications for EU bank ratings. For example, to be able to assess the Directive's impact we would ideally want to understand [...] the plans for broader structural changes in the EU banking industry.*"

- structural reforms could *help the orderly resolution of TBTF banks*. It could make the newly granted powers in BRRD more effective for TBTF banks, as resolution authorities would deal with separate, segregated and simpler balance sheets. This would make it easier to monitor and assess the different entities of a banking group and it expands the range of options at the disposal of resolution authorities. Additional measures for TBTF banks would be in line with the BRRD’s proportionality principle. Structural reform would also complement the available preventative powers of the BRRD that imply a more institution-specific reorganisation of selected banking groups and which have a narrower resolution objective only. Combining structural reform legislation with the BRRD could over time lead to a greater alignment between business lines and legal structures; and
- bank structural reform is also important for the *banking union*. The banking union is meant to reduce the inappropriate links between sovereigns and their banks. However, by doing so, implicit subsidies and the corresponding problems of moral hazard, aggressive balance sheet expansion, and competition distortions become even more prominent. As a result, Member States may be reluctant to mutualise (future) risks through Banking Union, in the absence of structural reform and credible orderly resolution mechanisms. Targeting the safety net to those core banking activities that deserve subsidisation and protection because they address a market failure reduces the scope of the public safety net and will be a catalyst for the willingness of EU Member States to push ahead with Banking Union.

Bank structural reform would address the incentives for excessive trading by increasing the private cost of engaging in trading activities of primarily intra-financial nature. This would lead to a contraction of such activities, as banks adjust to the new reality. Other things being equal, this would lead to a reduction in bank size. By correcting distorted incentives, bank structural reform would contribute to a better deployment and allocation of resources towards the real economy.

At the same time, depending on the scope of activities to be separated and strength of separation, bank structural reform come with a risk that a degree of efficiency might in principle be lost owing to notably reduced economies of scope¹⁴. The magnitude of these benefits and costs depend on the specific reform option chosen, notably the activities potentially subject to separation and the strength of separation.

¹⁴ See Annex A9 of the impact assessment accompanying the Commission’s legislative proposal, “*Summary of the main findings in literature on economies of scale and scope in the banking sector*”, European Commission (2014).

2.8. THE NEED FOR AN EU RESPONSE

As a response to the concerns depicted above, several EU Member States (Germany, France, Belgium and the UK) as well as third countries (US) have introduced or are currently in the process of introducing structural reform measures applying to their respective banking sectors. These reforms all have in common that they prescribe the separation of selected banking activities from a deposit taking entity.

While Member State measures to improve domestic financial stability may have positive spill-over effects for other Member States, they create tensions with the single market. Given the fundamental freedoms set out in the Treaty, inconsistent national legislation may affect capital movements and establishment decisions of market participants. Under the freedom to provide services, banks authorised in one Member State can freely provide all banking services in other Member States. National structural reforms can accordingly only apply to institutions that are headquartered in that Member State – and their branches in other Member States – as well as locally incorporated subsidiaries of banks from other Member States. National reforms accordingly run the risk of becoming ineffective, if locally incorporated banks *e.g.* were to relocate and branch back in (for local banks subject to reform) or switch from subsidiary to branch status (for banks from another Member State).

Inconsistent national legislation may also undermine efforts to achieve a single rulebook applicable throughout the Internal Market. This is a general problem, as the financial crisis has highlighted that the single financial market does not work optimally if national legislation is significantly different from one country to the other. It can also create specific problems regarding supervision, notably for the future SSM, where the ECB would have to supervise banks subject to different legislation regarding bank structure, thus undermining the establishment of a single rulebook within the EU.

In sum, if not all Member States address TBTF banks in a roughly consistent way, not all relevant TBTF banks would be subject to reform. Moreover, even those banking groups subject to national reforms would be able to circumvent the rules thanks to the Treaty freedoms, their existing cross-border network of branches and subsidiaries and their right to transfer capital and liquidity across EU borders. Conversely, those arbitrage opportunities would be closed if common rules were to be adopted at EU level. In sum, addressing TBTF banks in an effective manner requires a coordinated EU approach.

2.9. DETERMINING THE DESIGN – ASSESSING EFFECTIVENESS AND EFFICIENCY OF DIFFERENT OPTIONS

Bank structural reform accordingly come with significant potential to strengthen the stability of the banking sector and the financial system, but could equally, depending on design, have an effect on efficiency. The Commission accordingly thoroughly assessed the *effectiveness* (i.e. the extent to which social benefits, i.e. benefits to society as a whole, are achieved) and *efficiency* (i.e. costs to society as a whole) of different structural reform options in those regards.

Designing structural reforms requires policy decisions on 1) what activities should be subject to potential separation, and 2) how strong the separation should be. The Commission assessed a number of options along these two dimensions:

- *Activities*: following the developments depicted above, the banking activities undertaken by large EU banking groups today range from retail and commercial banking activities (e.g. insured deposit taking and lending to households and SMEs) to wholesale and investment banking activities (e.g. underwriting, market making, and proprietary trading). The basic rationale behind structural reform is to separate certain risky trading activities from deposit-taking activity. This separation can be applied at different ‘locations’, which leads to different degrees of restrictions on banks’ ability to engage in certain activities. Accordingly, options to separate banking activities end up between, at one end of the spectrum, a narrow trading entity and a correspondingly broad deposit-taking entity and, at the other end, a broad trading entity and a correspondingly narrow deposit entity.
- *Strength*: several options can be considered as regard strength, starting from an introduction of stricter accounting separation of different group entities, going via a stricter legal and economic separation within a group (so called subsidiarisation) to full prohibition (so-called ownership separation). Having concluded that mere accounting separation is unlikely to materially help in addressing TBTF banks, the impact assessment outlines three options; two based on different forms of subsidiarisation (given the wide range of specific subsidiarisation rules) and one based on ownership separation. The first subsidiarisation option contains only a limited degree of subsidiarisation in legal and economic terms, whereas the second includes an additional, stricter degree of legal, economic, and governance separation.

The combination of the activity and strength options yielded a number of stylised reform options, which were compared and analysed in terms of benefits and costs to society. As a result of that analysis, two options were retained for further

analysis. First, subsidiarisation of a relatively wide set of trading activities. Second, prohibition of proprietary trading. Whereas the former would yield higher social benefits than the latter, the impact assessment nevertheless concluded that these benefits would come at a higher social cost, such that on balance the prohibition option was still worthwhile retaining. The impact assessment further concluded that there are a number of variations to these two options that would make them roughly equivalent. For example, complementing the ownership separation of proprietary trading with a power to supervisors to separate other activities would reduce the effectiveness gap with the option of subsidiarising a wider set of activities, especially if that process was clear, transparent and predictable in terms of result. The Commission services therefore concluded that other considerations of a more political nature, such as timing of the reform, expected views and position of co-legislators etc., would need to be taken into consideration before making a choice between these acceptable and justifiable options and that accordingly, determining the best way forward would be more a matter of political choice than technical ranking.

2.10. THE COMMISSION PROPOSAL – KEY POLICY CHOICES

The proposal for a regulation adopted on 29 January 2014 constitutes the political choice of the College of Commissioners. While taking due account of the clear benefits derived from the diversity of banking models in Europe, the proposal intends to ensure that the delicate balance between the prevention of systemic risks and the financing of sustainable economic growth is maintained. The Commission accordingly opted for ownership separation of proprietary trading complemented with a power, and in certain instances obligation, to supervisors to require the separation by means of subsidiarisation of other trading activities. Supervisors will therefore have another instrument in their toolbox to ensure that the banking sector serves the real economy.

2.10.1. Legal form

The proposal is in the form of a regulation that has binding legal force throughout every Member State, on a par with national laws. National governments do not have to take action themselves to implement EU regulations.

That is particularly important, as some Member States have proposed or adopted structural reform measures for their national banking systems. Inconsistent national legislation that does not pursue the same policy goals, in a manner that is compatible and equivalent with the mechanisms envisaged in this Regulation, increases chances that capital movements and investment decisions are distorted.

Without a Union-wide approach banks will be forced to adapt their structure and operation along national boundaries, thereby making them even more complex and increasing fragmentation. It would also undermine efforts to achieve a single rulebook applicable throughout the internal market and the creation of an effective banking union, as it would have the effect of limiting the effectiveness of the Single Supervisory Mechanism and Single Resolution Mechanism.

By contrast, the proposed uniform rules on banks' structures would ensure that EU banking groups, many of which operate in several Member States, are regulated by a common framework of structural requirements¹⁵.

2.10.2. Institutional scope – thresholds and territorial scope

In line with the focus on TBTF banks, the regulation would apply to banks that meet certain criteria and exceed certain thresholds. First, it would apply to the European banks that are identified as being of global systemic importance. Second, the requirements would apply to banks that exceed the following thresholds for three consecutive years: (a) the bank's total assets exceed EUR 30 billion; and (b) the bank's total trading assets and liabilities exceed EUR 70 billion or 10 percent of their total assets.

The regulation also outlines the extent of application throughout the global corporate group for banks falling within the scope. Those rules have been laid down with the objective of preventing circumvention, limiting undue extraterritoriality, and providing a level playing field in the internal market. Accordingly, for EU banks (*i.e.* EU credit institutions and their EU parents, their subsidiaries and branches, including in third countries) it would apply globally, *i.e.* also including foreign subsidiaries and branches. For non-EU banks, it would apply to branches and subsidiaries in the Union. Such a broad territorial scope is justified to ensure a level playing field and avoid the transfer of activities outside the Union to circumvent these requirements. However, foreign subsidiaries of Union banks and EU branches of foreign banks could be exempted if they are subject to separation rules deemed equivalent by the Commission. Furthermore, supervisors could also exempt from separation foreign subsidiaries of groups with autonomous geographic decentralised structure pursuing a "Multiple Point of Entry" resolution strategy.

¹⁵ Nevertheless, consistent with the goals of contributing to the functioning of the internal market, a Member State that has previously adopted legislation prohibiting credit institutions taking deposits from individuals and SMEs from engaging in the activity of dealing in investments as a principal and hold trading assets may make a request to the Commission to grant a derogation from the provisions related to separation of certain trading activities for a credit institution that is subject to the national law compatible with provisions of that Chapter. To ensure that the impact of the national legislation does not jeopardize the aim or functioning of the internal market, the national legislation would have to be as ambitious or more ambitious than the EU regulation.

2.10.3. Prohibition of proprietary trading

Banking groups that are within the scope of the regulation would be prohibited from engaging in proprietary trading in financial instruments (apart from Union sovereign bonds) and commodities. While such trading appears to be currently limited, it was significant in the past and, in the absence of regulatory intervention, there is no guarantee that it may not increase again in the future.

While proprietary trading may in principle be difficult to distinguish from *e.g.* market-making, the proposal offers a narrow workable definition focusing on desks', units', divisions' or individual traders' activities specifically dedicated to taking positions for making a profit for own account, without any connection to client activity or hedging the entity's risk.

To prevent banks from circumventing the prohibition, the proposal states that banks subject to the proprietary trading prohibition are also prohibited from investing in or own hedge funds, or entities that engage in proprietary trading or sponsor hedge funds. Nevertheless, credit institutions covered by these prohibitions will be able to continue providing banking/custody services to hedge funds.

2.10.4. Separation of certain trading activities

In addition to the ban, banking groups within the scope of the regulation could also become subject to further separation by means of subsidiarisation. This aims at avoiding the risk that banks would circumvent the ban by engaging in hidden proprietary trading activities and that the non-prohibited trading activities become too significant or highly leveraged.

Supervisors would accordingly have a duty to review the trading activities of these banking groups. Trading activities are defined broadly and notably include three activities that are either especially close to proprietary trading, and hence susceptible to feature hidden proprietary trading (market making), or have played a key role during the financial crisis (*e.g.* investing and sponsoring activities in risky securitisation and trading in derivatives other than those that are specifically allowed for the purpose of prudent risk management). By contrast, the review would not include Union sovereign bonds from the obligation to review and power to separate¹⁶.

Supervisors would assess these activities in light of certain metrics (*e.g.* relative size, leverage, complexity, profitability, associated market risk, as well as interconnectedness). Supervisors would have to require separation if the trading

¹⁶ Such an exemption is consistent with the current practice of zero risk weights in the CRR/CRD.

activities were to exceed certain thresholds and meet certain conditions linked to the metrics. Nevertheless, if the bank were to demonstrate to the satisfaction of the supervisor that these activities do not endanger financial stability, supervisors could decide not to require separation. Likewise, the proposal would also give supervisors the power to require separation of a particular trading activity even if the metrics are not exceeded.

If separation was required, then a number of rules governing the interaction between the entity containing insured deposits and the separated trading entity would enter into effect in order to ensure a strong separation in legal, economic, governance and operational terms. For example, as regards economic separation, after separation, the group would have to be organised into homogeneous functional subgroups constituted on the one side by core credit institutions and on the other trading entities. Prudential requirements would apply on an individual or sub-consolidated basis to the respective sub-groups and restrictions would apply on both intra and extra-group, individual and aggregate large exposures.

Other provisions clarify what the respective group entities can and cannot do following a separation decision. As regards the ‘*cannot*’, the trading entity would neither be able to take deposits eligible for protection under deposit guarantee schemes nor provide retail payment services as defined in the Payment Services Directive¹⁷. As regards the ‘*can*’, the core credit institution would still be able to engage in the trading necessary to manage its own balance sheet risk subject to certain conditions. Furthermore, in order not to hamper banks’ ability of serving their customers, the core credit institution would still be able to sell certain derivatives to certain clients, again subject to certain conditions.

2.10.5. Powers of competent authorities

The supervisor would have to exercise a large degree of judgement whether or not to require separation and would accordingly play an important role under the Commission proposal. To further precisions as regards cooperation are useful in this regards.

The first relate to cooperation *between supervisors*. The banks likely to fall under the scope of the regulation operate in several countries and are supervised by several different supervisors. In order to ensure an effective and efficient group level application of structural reform, the proposal would give the final say over structural separation decisions to the lead supervisor with responsibility over the

¹⁷ Directive of the European Parliament and of the Council of 13 November 2007 on payment services in the internal market (OJ L. 319 of 5 December 2007, pp. 1-36).

consolidated group. The lead supervisor should, prior to making any decisions, consult the home supervisor of significant group subsidiaries.

The second relate to cooperation with *resolution authorities*. The BRRD foresees that resolution authorities may, as part of their resolution planning, require banks to make structural changes. It is accordingly warranted to ensure that the respective authorities liaise with each other. Under the proposal, a competent authority deciding to require separation would *e.g.* have to notify resolution authorities and would have to take into account any ongoing or pre-existing resolvability assessment.

2.11. CONCLUSION

The Commission has put forward a framework ensuring a uniform set of structural measures at EU level. It is broadly based on giving supervisors a tool to ensure that banks serve the real economy. The ball has now moved to the European Parliament and Council of Ministers. Meanwhile, the market structure for wholesale and investment banking activities is changing. Banks have so far been able to absorb many regulatory initiatives by adjusting their existing business models at the margin to improve operational efficiency and cut costs¹⁸. Nevertheless, more fundamental changes are on-going, *e.g.* as a result of changing trading and clearing practices in OTC derivative markets driven by regulation. The proposal would contribute to these changes. Any views on the direction of such changes inevitably involve a degree of speculation. What seems certain though is that it will not be ‘business as usual’. Banks will have to change their business models and services in order to provide sustainable profits.

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3. REGULATORY AND RESOLUTION MEASURES NEEDED TO FOSTER MARKET DISCIPLINE

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3.1. INTRODUCTION AND SUMMARY

The current policy focus on resolution mechanisms is correct for sure. Effective resolution of any bank that “has or is likely to fail” is key; especially to reduce the Too-Big-To-Fail (TBTF) problem. Non-viable banks need to be effectively resolved and restructured, or exit the market, without the use of public bail-out funds. These are the precise objectives of the draft Bank Recovery and Resolution Directive (BRR) currently being finalised in the EU.

While a quick finalisation of the BRR should be a priority, I think four issues have received too little attention in the current debate. They are all interlinked and instrumental to having a consistent and effective overall regulatory framework. They are also particularly important for the main policy objective of enhancing market discipline and reducing the TBTF problem.

First, one should also focus on generating further loss absorption capacity (LAC) for a bank to remain *going concern* rather than enhancing loss absorbence from private funds only in the resolution process, *i.e.* only in the gone concern state. The BRR covers the latter by creating a ‘bail-in’ regime for the resolution state in order to limit losses to taxpayers. Requiring *designated debt instruments* that would absorb losses already before a resolution process is initiated rather than considering only common equity instruments for this purpose would have the twin benefit of strengthening financial stability while also enhancing market discipline, and thus reducing risks to Deposit Guarantee Systems (DGS) and taxpayers. Avoiding a resolution process would also be very beneficial if major disruptions in the financial system could be avoided by keeping the bank going concern.

Second, research findings suggest that from the perspective of strengthening market discipline one should move from implicit and discretionary arrangements when handling problem banks to an *explicit* and *rules-based* system as far as possible. In the current policy debate, many argue in favour of maintaining full discretion for national authorities in the resolution process. It is true that resolution is by nature significantly discretionary, as one cannot foresee all

¹ I thank Esa Jokivuolle for many valuable discussions on the topic as well as many other colleagues in Fin-FSA and BoF.

² SUERF / Bank of Finland Conference, 13 June 2013 – Banking after Regulatory Reforms – Business as Usual?

eventualities in a bank crisis. Discretion should be, however, reduced as much as possible by adopting clear rules for the resolution process and having strongly harmonised practices at the EU-level. The most preferable solution would be a Single European Resolution Mechanism (SRM) as this would also eliminate harmful conflicts of interest between home and host-country authorities and complement the Single Supervisory Mechanism (SSM).

Moreover, boosting LAC through requirements to issue loss sharing contractual debt obligations would amount to reducing the scope for discretionary resolution measures. Granting preference for protected deposits would generate the same benefit of reducing the chance of ultimate bail-outs by limiting the risk for DGS. Hence, the two policy choices might be considered complementary, but when implemented together they would significantly strengthen market discipline.

Third, there is not enough focus on enhancing the *transparency* of banks' asset quality and there are unfortunate delays in promoting consistent asset valuations based on *expected loss (EL) provisions*. Regulatory capital ratios are the key trigger points for supervisory and regulatory actions, as well as central measures for market participants to assess a bank's viability. They are also probably the best indicators for triggering contractual loss sharing, or the ultimate resolution process. However, without adequate provisioning, capital ratios are not reliable indicators. We have seen that failed banks can have shown healthy capital ratios just before their failures. Having accounting rules based on incurred rather than expected losses, which is still unfortunately the case, also creates a major problem in this regard. Audited financial statements can contain major 'holes' when the EL are not properly accounted for, and it may be difficult for a supervisor to argue against auditors claiming adequate provisioning levels based on incurred losses.

Finally, despite the significant progress made in Basel III, I think there is still scope for *reducing leverage* and increasing capital protection for assets mostly affected by model risks, market liquidity risks and operational risks. Such suggestions were also included in the report of the High-Level Group chaired by Governor Liikanen. These risks seem greatest still in trading activities, while they can also be present on the banking book side. The difficulties in risk-measurement and the operational risks related to large trading volumes suggest to me that the risk-based capital requirements should be augmented with an *additional non-risk based capital buffer* requirement. Such a buffer would provide a safety margin against model-risks and additional hazards that pertain especially strongly to trading-related activities. I think that reconsidering the capital requirements would be necessary irrespective of the implementation of the structural measures separating trading from retail activities. Finally, reduced leverage in trading activities could avoid the drawbacks the academic literature tends to associate with continuous marking-to-market and transparency of asset valuations.

In this paper, I will develop more in detail the above four issues. Regulatory proposals presented are collected in the last section.

3.2. BACKGROUND: POLICY SHIFT FROM BAIL-OUTS TO BAIL-INS

After some EUR 1,600 bn was used in various forms of bank support (including guarantees) in Europe according to the estimate of the European Commission since the onset of the financial crisis, there is a clear desire to move to a *completely new regime* where even the failures of the largest banks could be managed without the involvement of taxpayers' funds. A key element in this policy change "from bail-outs to bail-ins" is a new bank resolution regime as set out in the draft BRR, including rules on bailing-in banks' debt-holders in the resolution process. The draft BRR requires that each Member State implements the same new resolution tools for banks and specific resolution authorities are designated. The resolution authorities can employ the resolution tools, *e.g.* exercise the bail-in of bank liabilities to ensure that private investors bear losses before taxpayers.

The plans to establish a SRM alongside of the SSM are also central in the current agenda. Moreover, the proposals to reform banking structures contained in the Liikanen report were fundamentally aimed at tackling the TBTF problem.

This policy shift is challenging as experiences since 2007 and before have led to a presumption that, in Europe, bail-outs are the rule and losses to banks' debt-holders are rare. If a bank's creditors assume that the government will pay them off, they will not care about disciplining the bank and the bank is able to fund itself at a very low cost.

As argued above, *explicit crisis management arrangements* would be required, in general, for reaching the policy objective of strengthening market discipline and reducing the TBTF problem. In a joint earlier research with Reint Gropp, we showed that the introduction of explicit deposit guarantee arrangements improved market discipline in Europe (Gropp and Vesala 2004). Increasing the probability of losing money for those creditors not covered by explicit deposit guarantee had the effect of creating some positive incentive effects and activating market discipline as compared to the prevailing presumption of complete bail-outs. Our central conclusion was that flexibility and discretion feed the assumptions in the market that banks will be bailed-out in any case; implicit or non-disclosed arrangements have been taken to imply no losses for private market participants at the end of the day.

3.3. TWO-STAGE BAIL-IN REGIME FOR BANK DEBT INSTRUMENTS: BOTH GOING AND GONE CONCERN

In a two-stage approach (favoured by EBA, for instance), *designated debt instruments* would be used first to allow the bank to remain going concern. The use of designated claims in bail-in before the formal resolution procedure is activated was also supported in the Liikanen report. If a bank's losses are so large to exceed the newly created loss absorption capacity from the designated debt instruments (and the other existing capital instruments), the resolution procedure would need to be initiated.

In the resolution (second stage), the bail-in should be extended to *all* debt instruments in accordance with the hierarchy ('waterfall') of the claims under insolvency law. There has to be full clarity of all of this beforehand to follow the rule of having explicit crisis management arrangements, as well as from the perspective of providing certainty for investors. Any exceptions should be limited as bank funding would likely shift to instruments not subject to bail-in (such as any preferential treatment of depositors – see next section).

The EU legislation does not contain provisions to require the issuance of 'bail-inable' bonds, nor does the draft BRR facilitate the establishment of the above-described two-stage bail-in regime. Such an approach to bail-in would have several benefits:

- First, this could allow the bank to continue operations after the injection of additional LAC if the losses do not exceed the buffers of capital instruments above the minimum legal requirements. Hence, for instance a very costly unwinding of positions, ensuing market disruptions and systemic risks could be avoided.
- Second, there would be contractual clarity in the designated debt instruments of the risk of equity conversion and/or write-down which would support the effective pricing of bank default risk and support market discipline (see *e.g.* Flannery 2010).
- Third, increasing bail-in capacity in this way would reduce the risk that when bail-in is executed only in the resolution and in a discretionary fashion by the resolution authority there would not be sufficient LAC and taxpayers' funds would be called to rescue. The contractual and compulsory conversion of the bail-in bonds into equity would not have the unavoidable uncertainty associated with the discretionary bail-in executed in the resolution phase. Namely, authorities could conclude that liabilities could not be converted into equity or written-down for systemic or legal reasons. The risk of affected creditors asking for a legal recourse is a major risk in every resolution.

- Finally, as bigger risk would be borne by the holders of such bail-in bonds and, consequently there would be less risk for other creditors, there would be less pressure on banks' funding costs.

Basel III regulation already requires the possibility to write-down non-CET capital instruments, but it does not contain a requirement for additional loss absorbing debt instruments. Recently, Admati and Hellwig (2013) have underlined the need for equity capital (and lots of it) to boost LAC, and have questioned the ability of debt to discipline bankers.

However, it is precisely the existence of debt-holders that have their money at stake that is crucial for market discipline and therefore the additional going concern LAC requirements should be framed in terms of *debt instruments*. Small banks though that cannot issue debt could meet the requirements via additional equity. Debt-holders have a different incentive structure than equity-holders, who can side with bank management in excessive risk-taking, particularly at low levels of equity. The importance of debt holders for market discipline has also gained empirical support (*e.g.* Gropp and Vesala 2003). Thus, having specific additional LAC requirements framed as required issuance of debt instruments would have the benefit of also supporting market discipline as compared with issuing additional equity.

3.4. MANDATORY 'BAIL-IN BONDS' WITH TRIGGERS ABOVE RESOLUTION POINT

As noted above, requiring a specific contingency of bail-in bonds would make bail-in more credible also in case of systemic banks, which would have a major positive impact on market discipline. For this very reason several authors have already for some time suggested the *mandatory issuance* of CoCo-bonds. Increasing the capacity to absorb losses was also recommended either via additional equity or CoCo's in the report of the Vickers' Commission. Indeed, such a requirement to issue CoCo's would constitute a *de facto* additional capital requirement (a new 'Tier 3' class of loss absorbing capital).

The issuance would have to be *mandatory* because banks could avoid the higher funding costs by using other types of instruments. The requirement could be restricted to significant banks only as small banks may not be able to issue debt instruments and need to be allowed to meet capital requirements via equity instruments only. The requirement should be substantial to make a real difference in terms of market discipline, say at least 5% of Risk Weighted Assets (RWA). Vickers' Commission recommended up to 20% of total loss absorbing capacity.

The trigger point to activate equity conversion or write-down should be mandatory and contractual, allowing no discretion to supervisors. Explicit clauses would be needed to avoid the belief in the market that authorities would favour bail-out in times of trouble for systemic risk reasons. The trigger point for designated bail-in bonds needs to be above the point where the bank “is failing or is likely to fail”, which is the trigger point for formal resolution as envisaged in the draft BRR. In theory, the trigger point should be defined as the point where the new loss absorbing capital would be needed to be created from the ‘Tier 3’ instruments as the losses would be too severe to bring the bank under the minimum regulatory capital requirements. But after the injection of new loss absorbency the bank would remain above the regulatory capital requirements and viable. Bigger losses than this would require an immediate starting of the resolution process.

The bank could also always improve its loss absorbency by issuing new equity, which would avoid the triggering of the bail-in bonds. However, contractual clarity and non-discretionary activation of the equity conversion would require the setting of an explicit capital adequacy level when the conversion would be triggered. This could be for instance at the margin of 1 or 2%-points above the minimum CET requirements. Flannery (2010) argues in favour of using the market value of equity as the trigger point for CoCo’s due to the opaqueness of banks’ book values of assets and equity. This approach has the main benefit of not relying on regulatory capital ratios which can be subject to model risks and be affected by incorrect asset valuations. However, using market-based values could be difficult to implement in practice in my view, and the problem would become less significant with enhanced transparency and provisioning on banks’ balance sheets.

The credibility of the bail-in via the activation of the CoCo’s rather than public bail-out can be further enhanced, as has been argued by *e.g.* Krahen, by requiring the bonds to be held outside the banking sector. The bonds could then be held by *e.g.* life-insurance companies, pension funds, hedge funds or sovereign wealth funds. From the consumer protection perspective, and limiting bail-out incentives, such instruments should probably not be sold to retail customers.

Insurance regulation (Solvency II) should not overly constrain the exposure of insurance companies vis-à-vis the banking sector from the perspective of the overall well-functioning of the financial system, while sufficient diversification across issuers should be naturally required to prevent systemic problems from spreading to the insurance and pension sector as well. The holdings of insurance companies are typically well-diversified and typically much less significant than interbank exposures which have been a major source of systemic risk.

3.5. CONSIDER DEPOSIT PREFERENCE, BUT ONLY FOR PROTECTED RETAIL DEPOSITS

Currently senior bank debt is *pari passu* with deposits in the EU. Many argue (e.g. Tucker 2013) that preference for small deposits would not make a difference as they are covered in any case by DGS. Some favour full preference for all deposits. The current EU debate seems to be tilting towards full depositor preference in the resolution mechanism, which I would find very dangerous.

I would consider deposit preference limited to *protected deposits only*. This would allow reaping the benefits in terms of market discipline as there would be less risk for DGS and it would be easier to impose losses on private bondholders in resolution, while not disturbing too much bank funding opportunities.

Retail deposits enjoy special protection from governments and have protection via DGS. However, the systems can have limited ability to cover deposits in case of major banks' failures and covering depositors' funds would then require public intervention. Moreover, access to deposits is one of most critical banking system function. Hence, bail-in would be more credible if retail deposits would have preference over senior debt. Losses would be then allocated first to senior debt-holders before they are attributed to depositors and to deposit guarantee schemes giving further protection to depositors and ability for governments to execute a bail-in. This higher risk of loss for bank senior debt-holders would be also beneficial from the perspective of creating effective market discipline.

Preference for protected deposits would, hence, increase the credibility of limiting protection to these deposits only over other bank liabilities, *i.e.* reaping the benefits of explicit limited deposit insurance in terms of enhanced market discipline (Gropp and Vesala 2004). Moreover, deposit preference also gives the possibility to pay-off depositors quickly in a bank resolution, and possibly in full, if asset liquidation values are sufficient, without the risk of having recourse demands by the other creditors of the bank and later unwinding of the remunerations paid to depositors (above deposit guarantee limits). In the handling of the Icelandic banking crises in 2008, deposit preference instituted in Iceland in the middle of the crisis facilitated greatly the resolution of the crisis banks.

The consequence of deposit preference would be increased risk to bank's senior debt-holders and higher bank funding costs and risks of funding difficulties. This would be particularly pronounced in times of banking sector and economic difficulties. Granting preference for all deposits, *i.e.* also for large deposits which should be equalised with any other private investments, would have a detrimental impact on banks' market-based funding and provide an incentive to banks to

switch to deposit funding as much as possible. Senior bank bond markets would seriously suffer. Full deposit preference would clearly not be advisable in my view. The credibility of bail-in by reducing the losses for DGS would also be achieved via increasing banks' loss absorbing capacity via the mandatory bail-in bonds as suggested above. The higher such requirements, the smaller would be the case for considering any deposit preference.

3.6. A STRONG CASE FOR THE SINGLE RESOLUTION MECHANISM (SRM)

The draft BRR requires that national resolution authorities cooperate with each other and that resolution colleges are established from all the resolution authorities of the countries where the bank has business operations. Also cross-border stability groups have been already established to prepare and coordinate crisis management measures across various authorities.

The draft BRR or any other existing arrangements do not, however, contain compulsory coordination of resolution measures before they are taken by home and host authorities. Hence, there is no explicit and binding resolution mechanism for cross-border banks. *Conflicts of interest* and incentives for ring-fencing that have plagued cross-border crisis management in previous cases will still be embedded in the current framework. Both home and host authorities can exercise ring-fencing at their own discretion. Moreover, there is no guarantee for adequate and timely information exchange, or explicit arrangements for fiscal back-stops of burden sharing that could still be needed even under a bail-in regime to foster financial stability (necessary public bridge financing for instance to execute effective resolution measures). Finally, the incompatibility of national solvency laws creates a major obstacle for effective cross-border resolution (see e.g. Avgouleas *et al.* 2012).

Hence, it is doubtful that a resolution college could effectively coordinate in time the necessary decisions involved in the resolution of a cross-border banking group and resolve the conflicts of interest. We will need the establishment of the SRM and a European Resolution Authority that would implement a single resolution process across the countries participating in the SSM (see e.g. Schoemaker 2011 and Huertas 2013 for papers on Pan-European resolution). What is also needed is a strong enough legal basis backing-up the Pan-European resolution mechanism (see Avgouleas *et al.* 2012).

Unless the SRM is established, the ECB would have to hand-off problem banks back to national authorities that could also create conflicts of interest as national authorities could disagree with the measures taken on the supervisory side and

deviate from a desired course when exercising resolution. Failure to establish the SRM would also mean that the SSM could not exploit all opportunities of single supervision as supervisory decisions on *e.g.* capital allocation across legal entities in a banking group would have to take into account the constraint of still having nationally-based resolution of problem banks. Under such a regime, it would be natural for host authorities to require adequate capital and liquidity buffers at all times also at the level of the subsidiaries.

It would be advisable in my view to delink a move to a pan-European DGS from the SRM. It could be politically infeasible to mutualise the ultimate public backup-arrangements needed for credible deposit insurance. Moreover, credibility of DGS could be affected if it had other goals than depositor protection, such as being the source of funds for bank resolution measures. For this purpose, specific resolution funds at the European level would be preferable.

Finally, the implementation of the BRR should be coupled with strong powers to EBA to ensure consistent application of the new tools, in particular the supervisory requirements on the recovery and resolution plans. This would be needed to reduce the room for national discretion and, hence, to further support market discipline.

3.7. LESS LEVERAGE, MORE TRANSPARENCY, MORE PROVISIONS FOR EXPECTED LOSSES

The Basel Committee has recently issued new initiatives to foster the *existing risk-based* capital requirements on trading books (especially modelling uncertainties). However, trading-activities can be highly complex to understand and manage, and the risks very difficult to measure and model; and they entail unforeseen ‘tail-risks’ that can turn out to be highly destructive. Trading positions, especially derivatives positions, can be used to build-up leverage (as we saw before the financial crisis); and banks can still have strong incentives to maximise leverage (see DeAngelo and Stulz 2013, also for why Modigliani-Miller’s leverage irrelevance theorem is not directly applicable to banks). Trading-related activities – in particular, where large volumes of trades are concerned – are also subject to major operational risks (‘fat fingers’, IT-risks, fraud etc.), of which there are several reminders in the past (*e.g.* Barings, SG, UBS).

The difficulties in risk-measurement, possibility of high leverage and the operational risks related to large trading volumes suggest that the risk-based capital requirements should be augmented by an additional, non-risk-based capital buffer requirement. Such a buffer would provide a safety margin against

model-risks (VaR-models fail to capture ‘tail-risks’, for instance) and the mentioned additional hazards that pertain especially strongly to trading-related activities compared to traditional banking businesses.

The risk-based capital requirements (VaR-model-based Pillar 1 requirements) can be quite small compared to the size of trading assets, allowing for very high leverage. For 21 major EU banks the capital requirement for market risks varies between close to 0 to little over 2% of the total value of trading assets, the average being around 1% (source: Liikanen Report 2012). This can reflect a large share of customer-driven business volumes and limited open risk positions, but the level of capital protection provided is rather low in any case against model and operational risks. These risks correlate with the size of trading assets, as the failure-potential increases with the size of individual trades and the entire trading book. Hence, the capital buffer requirement should also correlate with the size of trading assets and act to reduce leverage.

The additional capital buffer requirement should be a Pillar 1 capital requirement adding the minimum capital adequacy required at all times, rather than a discretionary Pillar 2 supervisory measure. A Pillar 1-treatment would ensure consistency across countries. Introducing this buffer would fit well with the overall consideration of the implementation of the SIB-buffers. An option (or a complementary measure) could be to allow (or require) the use of Additional Tier 1 funds (CoCos) to meet the trading book capital requirements. CoCos would in theory be suited to provide ‘insurance’ against unforeseen risks in trading-activities (and are much used *e.g.* by UBS and CS that have large trading books).

Too high a leverage may also be found in the banking book. The current levels of Risk Weighted Assets (RWA) calculated based on banks internal models (IRBA) and historical loss data tend to be quite low compared to the losses incurred in real estate-driven crises (in some other countries) such as the Irish and Spanish crises. Moreover, the RWAs calculated by individual banks internal models (IRB) can be significantly different for similar risks. It would be illogical in my view to address such a model risk by the IRB-floors as one should allow model outcomes in a risk-based capital framework, but the above issues should be addressed via specific regulatory and supervisory measures.

EBA should make sure that banks’ IRB-models include a sufficient safeguard against substantial property market stress (stressed LGD) and produce a high enough capital requirement. EBA would also need to harmonize more generally the treatment of risks to have greater confidence in the adequacy and consistency of the IRB-based capital requirements.

Academic literature tends to be sceptical about the benefits of a mark-to-market regime for assets held by banks (see Plantin *et al.* 2008, and Dang *et al.* 2013). It

is concluded that when assets trade in illiquid markets and feature important downside risks, historical cost accounting could dominate marking-to-market. Reducing the leverage of major market participants such as large trading banks would lower the risk of failures and disruptive fire sales, hence strengthening the case for applying the mark-to-market accounting regime, which is clearly beneficial for transparency and correct continuous assessment of bank capital levels.

Lack of transparency of bank asset valuations and doubts about the adequacy of provisions has been a major factor maintaining lack of *market confidence* in the adequacy of capital levels in the European banking sector. EBA's efforts in increasing transparency, boosting capital levels and promoting asset quality reviews have contributed positively, as will the balance sheet assessments in the SSM, but a lot remains to be done to 'X-ray' the losses possibly hiding on bank balance sheets.

The *inconsistency* of the prudential and accounting approaches to provisions also represents a major handicap. Clearly, provisions should at all times cover the EL, such that capital protection remains available for Unexpected Losses (UL), but the accounting reform under the IFRS rules instituted provisions only for losses that have incurred, which has been detrimental in my view for confidence in the adequacy of the provisioning levels. Currently, the coverage ratios displaying the adequacy of provisions are low on average in EU banks and can be quite low for certain banks.

The difference in the approach of prudential supervisors and auditors to provisions is also problematic, as supervisors should be able to trust the adequacy of provisions and asset value adjustments in the audited accounts. The EL approach should be instituted in accounting standards without any further delay, and coverage ratios should be increased to foster confidence in adequate capitalisation levels. In general, a framework based on *EL provisions, marking-to-market* and prudent accounting of losses should be the goal for all regulators, as this would best support both market confidence and discipline and reduce the risk of bad surprises of having banks whose apparently sufficient capital ratios did not after all protect against the losses looming on the balance sheet. Banks should fully disclose their EL calculation methods in order to improve the transparency of their accounts (transparency is the usual argument in favour of incurred loss provisioning).

It is also important to increase the safeguards against counterparty risks in order to reduce systemic risks. The open counterparty positions in derivatives (after collateral) are governed by large exposure rules and increasing capital requirements. However, as an additional measure, there might be a case to require a stricter limit than the normal 25% limit of CET1 in large exposure rules in

order to reduce the risk of contagion across the banking sector. In addition, moving from OTC to exchange trading and to the use of Central Counterparties (CCP) substantially helps improving transparency that stem from highly complex trading operations and reducing systemic risks. This has already been the case in the recent regulatory proposals.

3.8. CONCLUSION

While a swift adoption of the BRR is clearly desirable, I have suggested in this paper additional measures to complement the regulatory regime in order to strengthen market discipline and support the policy shift from bail-outs to bail-ins. More specifically, I argued in favour of:

- strengthening banks' loss absorption capacity by requiring significant banks to issue a fixed contingent of 'bail-inable' bonds (bonds that would convert into common stock or be written-down if the issuer's capital ratio fell below a pre-specified critical value);
- creating a two-stage bail-in regime, where bail-in (*i.e.* conversion or value reduction) would be in the first stage applied to designated bonds before the bank enters into resolution and in the second stage to all other liabilities in a fully comprehensive way following the 'waterfall' of debt instruments (with the only possible exception of granting preference to protected retail deposits);
- increasing capital requirements on especially trading book assets to reduce leverage by introducing additional non-risk based capital buffer requirements (even where structural measures to separate investment banking and trading functions from retail banking are executed);
- executing measures that reduce the risk of having to use public funds to cover the losses for DGS, such as granting preference to deposits protected by the deposit guarantee (especially if banks' loss absorption capacity is not strengthened by other means);
- creating the SRM as a counterpart to the single European supervisor; and separately from DGS;
- underlining the importance of credible and effective recovery and resolution plans and enhancing EBA's powers to develop strong pan-European criteria for the supervisory evaluation and approval of these plans;
- strengthening the disclosure of especially problem assets and coverage by adequate provisioning, and instituting as soon as possible the new accounting rules ensuring sufficient provisioning for Expected Losses (EL).

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4. GUARDING AGAINST SYSTEMIC RISK: THE REMAINING AGENDA¹

Alan S. Blinder

The worst financial crisis since the 1930s changed academic, financial, regulatory, and political thinking in many ways. One is the realization that we allowed (or maybe even enabled) financial market participants to construct a system that was amazingly vulnerable – given the huge potential costs – to systemic risk. By now, almost five years after the world financial system nearly imploded, you might think we had fixed all that. Sadly, we have not. This short essay focuses on the unfinished business of systemic risk regulation. These are not the only post-crisis regulatory issues that remain unresolved, but they certainly rank among the most important.

Before going further, readers should be forewarned about the author's prejudices, which should perhaps be labeled more accurately as *postjudices* – judgments reached *after* considering much logic, facts, and historical experience. I encapsulate these in five underlying assumptions²:

1. Finance does not appear to be self-regulating.
2. The case for *laissez-faire* in financial markets has been damaged beyond repair.
3. The costs of the financial calamity that began in 2007 were huge, probably far larger than all the efficiency gains from structured finance – forever.
4. We will not get rid of too-big-to-fail (TBTf) institutions, so we have to find ways of dealing with them.
5. Taxpayer interests must be protected.

I think only one of these (the fourth) should be considered at all controversial, though I know there are some who dispute the first two. Regardless, these are the maintained hypotheses that underpin this analysis.

4.1. TOP ITEMS ON THE AGENDA

Seven items hold prominent places on the systemic risk agenda. I will discuss the first six of them briefly, and then concentrate on the seventh: proprietary trading by banks.

¹ This paper is based on a presentation at the Bank of Finland/SUERF conference in Helsinki in June 2013. I am grateful for comments received there.

² I first enunciated these assumptions at a Federal Reserve Bank of Boston conference on bank regulation in October 2009. The paper was subsequently published as Blinder (2010).

4.1.1. Resolution authority

One main problem with what are now called “systemically-important financial institutions” (SIFIs) is that they are hard to resolve without either (a) imperiling large parts of the financial system or (b) burdening taxpayers with liabilities for potentially large bills. That’s why we call them “too big to fail”. But note that what we really mean by that well-worn phrase is too big to fail *messily*. The search for a workable resolution regime for SIFIs is a search for ways to euthanize such behemoths peacefully, should that become necessary.

In the United States, Title II of the Dodd-Frank Act of 2010 called for the creation of a new “orderly *liquidation* authority”. Note the italicized middle word. When the US Treasury made recommendations to Congress in 2009, it suggested giving the authorities a choice between either *resolving* a sick SIFI or *liquidating* it – whichever made most sense in the particular case. Congress rejected the idea of choice, opting instead for a liquidation-only approach: “No more bailouts”.

The Federal Deposit Insurance Corporation (FDIC) and the Bank of England recently unveiled very similar ideas for liquidating large, complex financial institutions³. While details matter a lot, the overriding concept is the Single Point of Entry approach. Under SPOE, the financial holding company should be structured (*e.g.*, with enough long-term unsecured debt) so the parent can absorb all the losses in a liquidation procedure while the bank subsidiaries carry on as usual – or as close to ‘as usual’ as possible. In particular, part of the idea is that bank depositors should not be ‘bailed in’, which seems to run counter to at least some recent European practice. (But perhaps not to *future* practice).

Things are naturally more complicated in the Eurozone because so many different countries are involved – and do not operate behind a Rawlsian veil of ignorance. Specifically, countries like Germany and Finland see themselves as far more likely to give than to receive assistance from the proposed Single Resolution Mechanism (SRM), whereas countries like Greece, Spain, and Portugal are more likely to be recipients than donors. The process may (or may not, we’ll see) be stymied by Germany’s insistence that such potential fiscal transfers are permissible only after treaty changes (and, of course, approval by the German Constitutional Court). So we may be waiting a long time for the SRM, which would mean that the TBTF problem will persist in the EU.

³ See FDIC & Bank of England (2012). For a good and thorough explanation and evaluation of the US version of SPOE, see Bipartisan Policy Center (2013).

4.1.2. Systemic risk monitor/regulator

According to an old saying, when the tide goes out, it reveals the rocks. But the rocks were, of course, present all along. One of the most shocking rocks that was revealed when the financial tide went out in 2008 was the absence, in most nations, of any regulatory agency responsible for system-wide risk. Instead, the international norm, certainly including in the United States, was regulatory ‘silos’. Bank regulators watched over the banks; securities regulators minded the securities markets; basically no one monitored the derivatives markets; and so on.

The news on this front has mostly been good, even though macroprudential regulation is still in its infancy. The US, for example, has set up a Financial Stability Oversight Council (FSOC), chaired by the Secretary of the Treasury and populated by all the financial regulators. A new division of the Federal Reserve Board staff in Washington essentially provides staff work for the FSOC (via the Chairman of the Fed), as does a new Office of Financial Research in the Treasury. Analogous organizations are popping up in Europe as well, *e.g.*, the new Financial Policy Committee of the Bank of England and the expanded regulatory powers of the ECB. While the world is not quite there yet, we are moving down the road in sensible ways.

4.1.3. Higher capital and liquidity standards

For a complex international negotiation, Basel III was accomplished amazingly quickly, though perhaps not all that well.

The good news is that banks will be compelled to hold substantially more and better capital (*e.g.*, much more tangible common equity) and that there will be parallel minimum liquidity requirements. The latter are particularly important because, in my view, one thing we learned from the crisis is that it is not easy to distinguish between insolvency and illiquidity in practice, especially when markets are chaotic. For example, is it clear, even now, that Bear Stearns was illiquid but solvent whereas Lehman Brothers was insolvent? Another welcome feature of Basel III is the higher capital requirements now being imposed on SIFIs.

The bad news starts with the leisurely pace of implementation. It is understandable that the novel liquidity requirements are being developed and phased in gradually. After all, this work constitutes breaking new ground. But giving banks until 2019 to comply with the higher capital standard is embarrassing. Fortunately, many banks, especially American banks, are getting there way ahead of the Basel III schedule. The big debate, of course, is whether even Basel III sets capital requirements high enough⁴.

⁴ See, for example, Admati and Hellwig (2013).

The other Basel III problems, in my view, are carried over directly from Basel II, and they are serious. One is the use of ratings from the rating agencies in risk-weighting assets. The other is allowing banks to use their own internal models to measure risk. Didn't the crisis teach us that both of these are folly?

4.1.4. Standardizing and exchange-trading derivatives

The news is much worse when it comes to the effort to standardize derivatives and trade them on organized exchanges. Dodd-Frank pushes markets in this direction, but probably not hard enough. For example, *by volume* (but not by riskiness), most OTC derivatives are exempt from Dodd-Frank restrictions. Besides, Dodd-Frank governs only the United States. Europe in general seems way behind on pushing derivatives into safer trading environments. Indeed, many European authorities, not to mention the big banks, have been in a long-running battle with America's Commodity Futures Trading Commission over these matters, with the CFTC taking the more aggressive positions.

About a month before this conference, *The New York Times* entitled an editorial on this subject, "Derivatives reform on the ropes"⁵. Since then, reform has taken a few more blows. This is disconcerting, given the key role that unregulated OTC derivatives played in propagating and magnifying the crisis. But it may not be surprising given the enormous amount of money at stake. After all, banks that can earn a king's ransom on some OTC products would earn nickels and dimes on standardized, exchange-traded products. They don't relish the prospect.

4.1.5. Traders' compensation

CEO compensation hogs all the headlines. The sheer size of the bonuses that pliant corporate boards routinely parcel out to their chief executives does seem obscene to many. But, as a famous US Supreme Court justice once pointed out, obscenity is in the eye of the beholder. In my view, excessive CEO pay checks are mainly matters of CEOs extracting rents from powerless shareholders. They rarely if ever pose systemic risks. If this is true, then shareholders, not the government, should try to block outrageous pay packages⁶.

The *incentives* embedded in the way *traders* are compensated are another matter entirely. Before the crisis, it was common to give traders what I call "go-for-broke" incentives⁷. Specifically, winning bets would make traders

⁵ May 19, 2013.

⁶ In the United States, Dodd-Frank included the so-called say-on-pay provision, giving shareholders a nonbinding vote on CEO pay. These votes were negative in only about 3% of cases in 2012. See Krueger (2013).

⁷ There seems to be very little hard evidence on pre-crisis pay methods.

fabulously wealthy by awarding them a non-trivial share of the profits on the upside. On the other hand, if they lost the firm's money, their bonuses would vanish, and they might (or might not) lose their jobs. But such losses were typically puny compared to the potential gains. This huge asymmetry between rewards for success and penalties for failure, coupled with the predilections of many young traders who self-select into this high-risk profession, created powerful incentives for excessive risk taking – excessive, that is, relative to what was in the best interests of either their superiors or their shareholders⁸.

More people are aware of this problem today than was true before the crisis, and regulatory authorities in a number of countries have taken useful actions by, for example, treating compensation incentives as one aspect of banks' risk-management examinations. They want to see compensation packages adjusted for the amount of risk taken, clawback provisions, more payments in restricted stock, and the like – all designed to reduce short-termism and make both traders and executives absorb more of the downside risk. On balance, substantial progress seems to have been made⁹. But, truth be told, pay incentives are very hard for governments to regulate. As memories fade, corporate boards will have to act more vigorously on compensation than they have in the past.

4.1.6. Rating agencies

Prior to the crisis, there were two big problems with the rating agencies. First, numerous laws, regulations, and contracts – not to mention Basel II risk-weights – assigned a critical, and sometimes decisive, role to the ratings given out by the agencies. In the United States, Dodd-Frank blissfully ended most of that. But Basel III continued the bad old traditions of Basel II. And that's the *good* news.

The *bad* news is that nothing – I repeat nothing – has been done about the issuer-pays model for compensating rating agencies. I haven't heard anyone defend issuer-pays as a good idea in principle, and virtually everyone lists rating-agency failures as among the chief causes of the financial crisis. Yet, nearly five years after the Lehman bankruptcy and three years after the passage of Dodd-Frank, nothing has been done to fix, or even to ameliorate, the perverse incentives created when issuers pay the rating agencies for their work. It's as if the Titanic went down and nothing happened. I don't know whether to call this failure amazing or disgraceful. No doubt it's both.

⁸ One exception: If CEOs and other top executives share in the trading profits, then they inherit some of the skewed incentives of the traders.

⁹ See Financial Stability Board (2011) and Board of Governors of the Federal Reserve System (2011). I am grateful to Mark Carey for steering me to these documents.

4.2. PROPRIETARY TRADING BY BANKS

I will now concentrate on the seventh issue on the unfinished systemic risk agenda: What to do about proprietary trading by banks. I single this issue out for special attention not because it is the most important of the seven, but because of the time (June 2013) and place (Helsinki) of this conference. The EU announced in July 2013 that it would propose bank-structure rules, based on the Liikanen recommendations, in October.

Three basic approaches to limiting proprietary trading by banks have been offered – plus a fourth, which is to let the *status quo ante* prevail. The United States acted first with the Dodd-Frank Act (2010). It included the so-called Volcker Rule, which would force proprietary trading out of FDIC-insured banks. In the United Kingdom, the Independent Commission on Banking, led by Sir John Vickers, recommended in 2011 that only normal retail and commercial banking activities be protected by the safety net, leaving other financial activities – including trading, but also other things – outside the ‘ring fence’ that protects the core bank¹⁰. In the European Union, the High-Level Expert Group headed by Bank of Finland Governor Erkki Liikanen recommended in 2012 that most trading be conducted in separately-funded subsidiaries, rather than in the banks themselves¹¹. While the three approaches are all first cousins, there are some differences worth considering. I should reveal before going further that I am on record as favoring something akin to the Liikanen approach¹².

I call the three approaches ‘first cousins’ because they share (at least) two objectives. First, they seek to protect bank deposits from the risks of trading. Neither depositors nor the governmental authorities that insure them should be on the hook for trading losses. Second, they aim to keep trading under some sort of regulatory regime. What is less frequently recognized is that these two objectives might conflict.

Start with the Volcker Rule. Paul Volcker’s original idea was that banks should not be allowed to use funds gathered from insured deposits for gambling. It is hard to argue with that position. As written into US law, the Volcker Rule would force proprietary trading out of banks, *with some exceptions*, e.g., dealing in Treasuries and market-making activities. Therein lies (part of) the rub. How do regulators distinguish, *in practice*, between market-making and proprietary trading? After all, the very same trade (buy X, sell Y) could fall within either category, depending on (a) the bank’s other trading (and non-trading) activities and (b) the trader’s intent – which the trader knows, but the regulators don’t. This

¹⁰ Independent Commission on Banking (2011).

¹¹ High-level Expert Group on reforming the structure of the EU banking sector (2012).

¹² Blinder (2010) was presented at the aforementioned October 2009 conference. It recommends separate trading subsidiaries, plus a ban on downstreaming capital from the parent to the trading sub.

conundrum is one major reason why, after three years of struggling with the problem, US regulators have still not been able to devise workable regulations to put the Volcker Rule into effect. It is also the main reason why I recommended in 2009 that *all* trading activities be segregated into a separately-capitalized trading sub.

The Volcker Rule raises another issue: If banks are banned from trading, the business will migrate elsewhere. Where? A reasonable guess is that unregulated hedge funds would take up much of the slack. Questions have been raised about whether such a change in the locus of financial trading would make it safer or riskier to society. My own answer is ‘probably safer’, as long as no hedge fund is allowed to grow large enough to pose a systemic risk – the way Long-Term Capital Management did in 1998. That, in turn, requires regular reporting of positions to regulators, which many hedge funds abhor, *and* the authority to act if necessary, which the FSOC in the United States now has.

While Volcker wants to push bank holding companies (the American term) out of the trading business, the Vickers Commission would keep trading and other activities inside banking groups (the European term), but ‘ring fence’ them away from normal banking activities such as deposit-taking and commercial lending. Taxpayers would then be off the hook for any trading losses but potentially on the hook for, say, the consequences of outsized loan losses. Notice two key differences between Vickers and Volcker – which is why they are cousins, not brothers. The Vickers approach keeps everything within the universal bank, whereas the Volcker approach expels proprietary trading. And the Vickers ring fence leaves a whole list of activities, not just trading, without a safety net.

The Liikanen group was, of course, aware of both of these ideas when it began its deliberations in February 2012. Its proposal begins with Volcker’s premise that both depositors and taxpayers need to be protected from the risks posed by proprietary trading. But, unlike Volcker, Liikanen decided that distinguishing between market-making and proprietary trading was too difficult, so (almost) *all* trading should be segregated into separately-capitalized subsidiaries. Liikanen did, however, make an exception for ‘hedged, client driven’ transactions, which can remain within the bank. How the authorities are to decide which transactions are ‘hedged’ and ‘client-driven’ is a good question. Unlike Vickers, which ring-fences normal banking activities in, Liikanen pushes most trading out. But that seems like a minor detail. More significantly, the Liikanen proposal, like Vickers, would leave trading *inside* the banking group and hence subject to bank supervision.

As I suggested earlier, I have long favored the Liikanen approach – but with one important proviso. Under my proposal, but not under Liikanen, the parent banking group would be prohibited from downstreaming capital to its trading

sub to cover losses. If trading losses became large enough, therefore, the sub would go bankrupt rather than receive capital injections from its parent. Such a ban on downstreaming would clearly render the parent company stronger and the trading sub weaker. That's a deliberate design feature. Counterparties who deal with the trading sub should know that neither the parent bank's capital nor deposit insurance stand behind it. They should also know – and regulators should make it crystal clear – that no trading sub will be allowed to grow too big to fail.

Under this proposal, trading subs would likely find it necessary to maintain large capital cushions, maybe even enough to earn them AAA ratings that their parents lack. All that capital, in turn, could make it expensive to keep trading operations inside universal banks¹³. As noted earlier, that high cost could send much trading activity to the hedge fund sector – where, as suggested earlier, no hedge fund would be allowed to grow large enough to pose systemic risks. Besides, hedge funds being partnerships rather than corporations, their top managers have a great deal of what I've termed MOM ('my own money') at stake, instead of working exclusively with OPM ('other people's money'). That design feature likely makes them more risk averse, or at least more careful risk managers, than limited-liability corporations. Very few hedge funds, for example, operate with as much leverage as banks.

4.3. LAST WORD

Prior to the crisis, systemic risk regulation was terrible – indeed, it hardly existed. There has been notable progress since then, but not nearly enough. In particular, the accomplishments to date seem like little to show for four years of intense work. (I date the beginning of the reform process from the end of the acute stage of the crisis.) Overall, I'd give a mediocre grade to the efforts of governments and regulatory bodies to contain systemic risk.

The French writer Jean Giraudoux once wrote that only the mediocre are always at their best. I hope mediocrity is not the best we can do here. For if we don't move ahead on the systemic risk agenda, we are likely to slip back. Voters are already forgetting what happened; they never understood the details or the remedies in the first place. But the financial industry does understand, doesn't forget, and knows where its self-interest lies. It also has political muscle – stemming from prodigious amounts of money – in all countries. Unless governments and regulators step in strongly to protect the public interest, this looks like an unfair fight.

¹³ This assumes that enough imperfections vitiate the Miller-Modigliani considerations emphasized by Admati and Hellwig (2013).

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5. ON THE SIZE AND STRUCTURE OF THE BANKING SECTOR

Erkki Liikanen

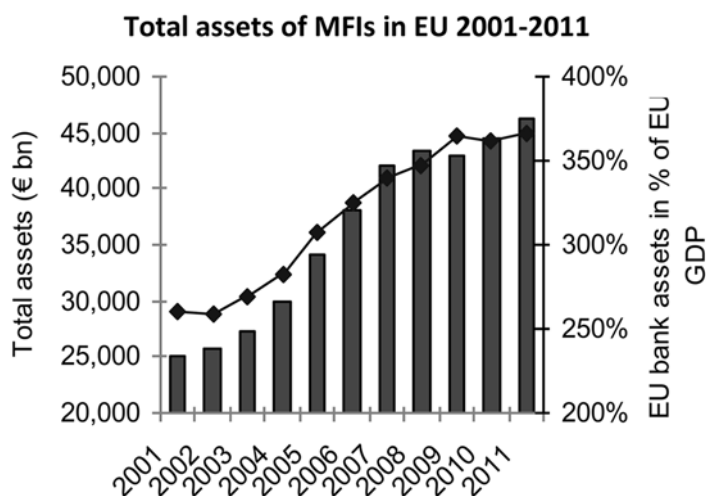
5.1. RESEARCH FINDINGS

Before the financial crisis, the consensus view from the finance and growth research was that financial development not only follows economic growth but contributes to it¹.

However, after the financial crisis, the other side of the financial sector growth has received increasing attention.

Now it is recognised that before the crisis, the financial sector had grown to quite massive proportions in many countries (see Chart 5.1). And at the same time, the sector had become more and more concentrated as the biggest institutions had increased their market share.

Chart 5.1. Rapid growth in the EU banking sector



Note: Bar charts show total assets, dotted line shows assets as % of GDP

Source: ECB data as presented in High-level Expert Group Final Report

¹ LEVINE, 2005, "Finance and growth: theory and evidence" in *Handbook of Economic Growth*, edited by Aghion and Durlauf.

Let me start with the benign view of the financial sector expansion, and the emergence of increasingly large banks, that prevailed before the crisis.

The main point in the benign story is that growth of the financial sector improves overall economic growth opportunities by mobilising resources to finance investment projects and by facilitating risk management². The key assumption is that a well developed financial system helps allocate productive resources more efficiently, both by channelling funds to growth sectors and by pulling resources from declining ones.

At the level of individual financial institutions, the growth of bank balance sheets was seen as reflecting increasing returns to scale and scope from combining a wide variety of financial services and providing them also cross-border to internationally active clients.

However, the events of the financial crisis have led us to also consider the malign diagnosis of the massive size of the financial sector and of the single financial institutions that dominate the banking sector.

Some recent research at the BIS suggests that finance does indeed contribute to economic growth but only up to a point³. A too large financial sector may imply too high risk-taking, which results from over-investment and too much leverage in some sectors of the economy, typically the real estate related sector. This increases the frequency of crises which involve heavy output losses. Moreover, returns to scale may have accrued to bankers in the form of high compensation rather than to the stakeholders with “skin in the game”, *i.e.* a bank’s owners⁴. A too large and a very well paid financial sector may also have deprived other sectors of some of the most productive human resources⁵.

What makes the financial sector grow too big?

Researchers have suggested reasons ranging from banks’ failure to internalize systemic risks that stem from growth of leverage and ballooning balance sheets to rent-extraction in opaque OTC markets⁶.

However, the most natural explanation may be the explicit and implicit public guarantees which have led to lower funding costs to the largest institutions which the markets expect to be too-big-to-fail.

² KING and LEVINE, 1993, “Finance and growth, Schumpeter might be right”, *Quarterly Journal of Economics* 108; KING and LEVINE, 1993, “Finance, entrepreneurship and growth”, *Journal of Monetary Economics* 32.

³ CECCHETTI and KHAROUBI, 2012, “Reassessing the impact of finance on growth”, *BIS Working Paper* 381.

⁴ ANDERSON and JOEVEER, 2012, “Bankers and bank investors: reconsidering the economies of scale in banking”, *CEPR Discussion Paper* 9146.

⁵ PHILIPPON and RESHEF, 2012, “Skilled biased financial development: Education, wages and occupations in the US financial sector”, *NBER Working Paper Series* 13437.

⁶ STEIN, 2012 and BOLTON, SANTOS and SCHEINKMAN, 2012, respectively.

Pursuing such a status in the eyes of the market, and the ensuing cheaper funding, can give a strong incentive to grow. Given the size of the largest banks' balance sheets, even a relatively small advantage in the funding spread means a big hidden flow of subsidy from the taxpayers to those banks⁷.

Recent research suggests that the increasing returns to scale in banking, beyond a certain size range, may largely result from the cheaper funding costs of the presumed too-big-to-fail banks⁸. An interesting aspect of the research is also that the social cost of too-big-to-fail banks, due to increased systemic risk, appears to be significantly higher than the benefits from the economies of scale⁹.

However, not only the size of the financial sector and that of the banks is important, but also what the sector actually does.

In the run-up to the crisis there was a trend among the biggest banks to move their focus towards investment banking, including trading operations (see Chart 2.5 in chapter 2).

Part of this trend was driven by the growing demand by corporate customers for risk management services. To a significant extent, however, the growth in investment banking activities was driven by the banks themselves in search for new revenue streams and higher profitability. In many banks the proportion of trading assets in the balance sheet increased substantially as securities and derivatives trading provided a relatively fast and flexible way to grow¹⁰.

The relative importance of customer loans fell over time and the importance of interbank lending grew. Moreover the customer loan business was transformed as many banks particularly in the US moved away from the "originate and hold until maturity" model to the "originate and distribute" model where granted loans were pooled, then securitized, and sold to investors, including European banks. Securitization was motivated by the desire to economize on capital buffers, but it turned out later that the assumed benefits of diversification were vastly outweighed by the increasing propensity to contagion. The increasingly long and opaque chains of claims and the exposures to entities in the shadow banking system made banks and the financial sector as a whole vulnerable to shocks¹¹.

Big risks followed, also at the systemic level, as balance sheet growth was often matched with dramatic changes in the liability side of banks' balance sheet.

⁷ NOSS and SOWERBUTTS, 2012, *Bank of England FS Papers Series*, FS Paper No. 15.

⁸ DAVIES and TRACEY, 2012, "Too big to be efficient? The impact of implicit funding subsidies on scale economies in banking", *Journal of Money, Credit and Banking* 46.

⁹ BOYD and HEITZ, 2012, "The social costs and benefits of too-big-to-fail banks: a 'bounding' exercise", *University of Minnesota working paper*, February.

¹⁰ BOOT and RATNOVSKI, 2012, "Banking and trading", *IMF Working Paper* 12/238.

¹¹ ADRIAN and SHIN, 2010, *The Changing Nature of Financial Intermediation and the Financial Crisis of 2007-09*.

Firstly, banks became increasingly leveraged as the solvency rules allowed this to happen without a proportionate addition of fresh capital. This was particularly true in the case of capital requirements for market and counterparty risk. Furthermore, the more frequent use of internal models resulted in lower capital requirements. The loss absorption capacity weakened. Second, banks relied increasingly on short-term wholesale funding, typically from the repo market, which made them more vulnerable to market disruptions. Thirdly, the rapid balance sheet growth also required more interbank financing, which resulted in more interconnectedness in the financial network, thus creating even more contagion channels¹².

Another risk of a systemic nature is that diversification along similar lines can make financial institutions more alike by exposing them to the same risks¹³.

And indeed, the benefits of diversification appear to have been offset by the greater risk banks were exposed to as the share of activities outside the traditional retail banking operations was increasing¹⁴.

Some potential benefits of diversification may also have been lost as implementing a diversification strategy is a big managerial challenge¹⁵. It is particularly challenging in a banking group because of the differences in management cultures and risk profiles of the different entities.

The challenge at hand is to reform the financial sector and banks towards a more healthy size and structure in order to redirect banking activities to support the society and the real sector in the best way possible.

No one knows what the right size of the financial sector is, but what we can do is remove any perverse incentives which could lead to an excessive growth of the sector. For example, the safety nets needed to protect depositors must not lead to the kind of moral hazard which would undermine the stability of the financial system and entire economies.

¹² SHIN, 2010, *Macroprudential policies beyond Basel III*, Princeton University, policy memo.

¹³ WAGNER, 2010, "Diversification at financial institutions and systemic crises", *Journal of Financial Intermediation* 19.

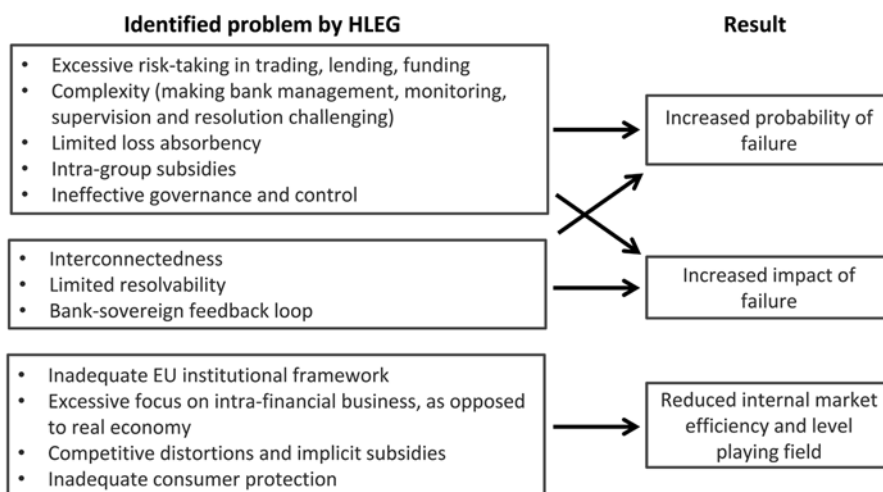
¹⁴ STROH and RUMBLE, 2006, "The dark side of diversification: the case of US financial holding companies", *Journal of Banking & Finance* 30; MERCECA *et al.*, 2007, "Small European banks: benefits from diversification?", *Journal of Banking & Finance* 31.

¹⁵ STROH, 2004, "Do Community Banks Benefit from Diversification", *Journal of Financial Services Research* 25; ACHARYA *et al.*, 2006, "Should banks be diversified? Evidence from individual bank loan portfolios", *Journal of Business* 79.

5.2. HOW THE HLEG PROPOSALS CAME ABOUT?

In the High-level Expert Group on reforming the structure of the EU banking sector, we detailed the different phases of the crises, analysed the characteristics of the banking sector, and identified a number of weaknesses which we thought the ongoing regulatory reform would resolve only partially.

Chart 5.2: Summary of the problems in the EU banking sector identified by HLEG



We also identified strengths that needed to be maintained in the prospective structural changes of European banks. For example, we thought it would be very important to accommodate the diversity of business models of banks in the European market place.

In our deliberations we considered two avenues as possible ways forward. In the two avenues we put different emphasis on the most promising measures to end the too-big-to-fail problem; capital requirements, resolution regimes, and structural reform.

In the first avenue, additional, non-risk-weighted capital requirements on trading activities and credible recovery and resolution plans for banks would have been the main instruments.

We acknowledged that the measurement of risks inherent in trading assets is prone to a significant ‘model risk’. Robust capital requirements which do not rely on complicated models are one way to tackle this issue (as are limits on risk concentrations and counterparty exposures). Avenue 1 was based on this approach.

The possibility of structural measures did enter Avenue 1, but only as a conditional instrument. The idea was that if a bank was not able to prove that the required recovery and resolution plans were credible, separation of trading activities was to be imposed by authorities.

In the second avenue, by contrast, any significant trading activities would be required to be separated from retail deposit banking. The separation proposal outlined in Avenue 2 was based on the notion that capital requirements are not by themselves sufficient to limit excessive risk-taking incentives induced by deposit insurance if risks are difficult to measure and risk profiles can be changed rapidly, as in trading activities. Avenue 2 also acknowledges the risk of heterogeneous application of tailor-made separation based on the credibility of the recovery and resolution plans of individual banks. Thus Avenue 2 includes uniform separation *ex ante* in order to facilitate resolution of large and complex banks without public funds and hence reduce the too-big-to-fail problem.

Further, a sufficiently broad separation of trading activities from deposit banking would avoid definitional problems which would arise, for example, if the dividing line had to be drawn between proprietary trading and market making.

5.3. HLEG PROPOSAL FOR MANDATORY SEPARATION

After a long discussion, where both avenues were supported, the group decided to propose mandatory separation (or subsidiarisation as it has been labelled in the international discussion).

First, the group wanted to limit the spill-over of the benefits from the deposit guarantee system and any implicit government guarantees to certain trading activities of banks. Even though the deposit bank and the trading entity, to which the above mentioned activities are to be separated, could operate within the same banking group, restrictions on transfers and exposures between the separated entities are imposed. Moreover, the deposit bank and the trading entity are to stand on their own merits also in terms of capitalisation and funding. Without separation, the explicit and implicit guarantees would distort the market mechanism and spur the deposit banks to unhealthy risk-taking and expansion in their trading activities.

Second, we saw the need to simplify the structure of large, complex banks. Reducing complexity by means of separation facilitates management. Steering effort to the right direction by means of incentive schemes, for example, is easier in a less complex organisation, where the organisational units are more homogeneous. Separation also facilitates supervision and monitoring by outside stakeholders such as shareholders, bank creditors and other market participants,

thus reinforcing market discipline. Finally, separation makes it easier to impose recovery and resolution measures on failing banks.

Hence, simplification of the structure of large, complex banks by means of separation facilitates the application of the ongoing regulatory initiatives in the area of corporate governance, disclosure procedures and the crucially important bank recovery and resolution framework.

Of particular interest is naturally whether an EU wide structural reform could have implications for the functioning of the banking union currently under construction. First of all, I think it is safe to say that the simplification of the large, complex European banks would facilitate the task of the Single Supervisory Mechanism. Secondly, resolution of banks currently seen as too-big-to-fail, needs to become a credible option, whether or not the responsibility for resolution lies on a national or European authority. Third, we saw the need to shield the deposit taking bank from excessive risk-taking in trading activity and from exposures to entities in the shadow banking system.

Fourth, we emphasised the need to strengthen the governance of banks by altering the management culture. Separating retail banking and trading activity would reduce the mixing of two very different management cultures. They are intrinsically different in the customer-based deposit and commercial banking field and in the ‘transaction-based’ trading activities. In the former, the relevant horizon is long and the role of the customer relationships is essential. The latter has a different logic – that of beating the market and collecting transaction fees. Profits often come from counterparts instead of customers.

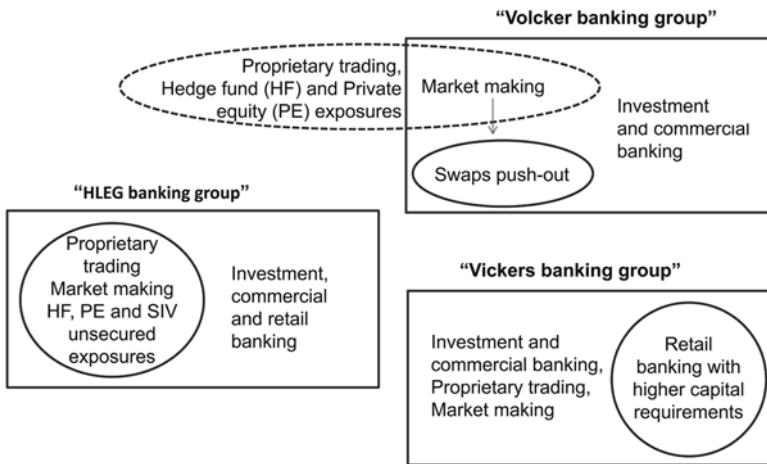
The choice of where to draw the line between the deposit bank and the trading entity was aimed so as to enable banks to service the real economy in the best way possible. We concluded that allowing the deposit bank to provide non-banking clients with customer-initiated hedging services with basic instruments such as forex and interest rate futures and swaps as well as to undertake securities underwriting for them would leave sufficient room for deposit banks to service corporate customers and thus fulfil their role in financing the real economy.

Moreover, while seeking to correct the problems which result from the mixing of trading with deposit banking, we wanted to preserve the universal banking model at group level. Hence, we would allow the separated entities to operate under the same roof. This would keep the trading units within the supervisory umbrella of the bank supervisors. It would also be less disruptive of the European banking market than a complete forced divestment of certain trading activities and would allow “one-stop banking” to continue where it is to the benefit of customers.

Our work was facilitated by the structural proposals which had been previously made in the US and the UK. The general orientation of all three proposals – the

American Volcker rule, the British Independent Commission on Banking (Vickers) proposal, which is taken forward in the form of draft legislation, and our proposal is similar. However, they do differ in some respects.

Chart 5.3: Comparison of suggested structural reforms



The Volcker rule is the most narrow, but also most radical in that it targets mainly proprietary trading, and requires of banking groups to wholly divest their proprietary trading activities – they cannot be continued even in separate subsidiaries of banking groups. The Vickers and High-level Expert Group proposals are wider in scope, seeking to regulate more trading activities than the Volcker rule, but are in a sense less radical in the implementation of the separation as they allow separation in the form of subsidiarisation within the banking group. However, the UK government has proposed to give authorities reserve powers to call for full separation, meaning disallowing even the group structure, in case banks try to circumvent the ring-fence.

The EU High-level group wants to separate not only proprietary trading in the narrow sense, but also market making. So, avoiding the difficult segregation of proprietary trading and market making is one way our proposal differs from the Volcker Rule. Our proposal prevents market making to become a way to circumvent the prohibition of proprietary position-taking in securities market.

The treatment of market making in structural regulation has become a point of some controversy. In addition to the problem of circumvention, the debate concerns a question of principle: is there some market failure in the supply of liquidity through market making, which justifies use of insured deposits to fund the market making inventory? It is not at all obvious that there is.

When comparing our proposal with the proposal to be implemented in the UK, one can say that the proposals started from different directions. The Vickers proposal started from the narrow banking philosophy and sought to restrict the use of those funds. We on the other hand focused on the most volatile parts of banking business and sought to cordon off those so as to protect the traditional universal banking model, as we used to know it, from engaging in excessive risk-taking. The end results as to where the line is drawn between the entities to be separated are, however, not totally different.

The main difference in where the line between the separated entities is to be drawn is that we would allow the deposit bank to engage in securities underwriting whereas this activity would be separated in the UK. As I already mentioned, our solution is based on the view that underwriting is closely connected with corporate finance.

About half a year ago the French and German governments published national proposals for structural reform in the banking sectors of those countries. These initiatives can be seen as adaptations of our proposal as they apply the same ‘subsidiarisation’ model. The activities to be separated are somewhat narrower as proprietary trading would have to be separated to the trading entity, but not market making. However, there would be supervisory powers to limit the open positions taken in the course of market making.

During last spring, structural reforms were put on the agenda of the international regulatory community. The issue has been discussed both at the Bank for International Settlements and at the International Monetary Fund¹⁶ (see Table 5.1 and Table 5.2). Simultaneously, the European Commission has worked on an impact assessment and recently launched a consultation where two alternative scenarios for structural reform in EU are to be assessed by the banks; one scenario is close to our proposal while the other is somewhat broader both in terms of its scope and the depth of the gorge between the entities to be separated¹⁷.

¹⁶ GAMBACORTA and VAN RIXTEL, 2013, “Structural bank regulation initiatives: approaches and implications”, *BIS Working Paper* 412; VINALS *et al.*, 2013, “Act local but think global: Can the Volcker, Vickers, and Liikanen structural measures create a safer financial system?”, *IMF Staff Discussion Note* 13/4.

¹⁷ EUROPEAN COMMISSION, 2013, “Consultation by the Commission on the structural reform of the banking sector”, http://ec.europa.eu/internal_market/consultations/2013/banking-structural-reform. See also *European Financial Stability and Integration Report 2012*, April 2013, for further detail on the background to the impact assessment done by the Commission.

Structural reform on the agenda of the international regulatory community

Table 5.1: A stylised comparison of selected structural reform proposals

	Volcker	Liikanen	Vickers
Broad approach	Institutional separation of commercial banking and certain investment activities	Subsidiarisation: proprietary and higher-risk trading activity have to be placed in a separate legal entity	Ring-fencing: structural separation of activities via a ring fence for retail banks
Deposit-taking institution may:			
– deal as principal in securities and derivatives	No	No	No
– engage in market-making	Yes	No	No
– perform underwriting business	Yes ¹	Yes	Restricted
– hold non-trading exposures to other financial intermediaries	Unrestricted	Unrestricted	Restricted (inside the group)
Holding company with banking and trading subsidiaries	Not permitted	Permitted	Permitted
Geographical restrictions	No	No	Limitations for ring-fenced banks in the UK to provide services outside the European Economic Area

¹ Underwriting in response to client/counterparty demand.

Source: Structural bank regulation initiatives: approaches and implications, BIS Working Papers.

Table 5.2: Comparing the Structural Reform Proposals

	Liikainen group report	United Kingdom	United States
Holding company with banking and trading subsidiaries	Permitted	Permitted	Not permitted
Deposit taking institution dealing as principal in securities and derivatives ¹	Not permitted (but other group companies may do so)	Not permitted (but other group companies may do so)	Not permitted
Deposit taking institution investing in hedge funds and private equity	Not permitted (but other group companies may do so)	Not permitted (but other group companies may do so)	Not permitted
Deposit taking institution providing market making services	Not permitted (but other group companies may do so)	Not permitted (but other group companies may do so)	Permitted
Deposit taking institution's non-trading exposures to other financial intermediaries	Unrestricted	Restricted	Unrestricted
Higher loss absorbency rule ²	Yes, via leverage ratio for trading business that exceeds size threshold	Yes, as add-on to the conservation buffer for UK ring-fenced bank	For SIBs with substantial US footprint
Size threshold for application	Yes; applies to all banks with trading books larger than EUR 100 billion, or trading assets more than 15-25% of balance-sheet	Yes; applies to all banks and building societies with deposits greater than GBP 2.5 billion	No
Enacted into law	No	Scheduled for completion by 2015	Yes
Implementing regulations finalized?	No	No	No

Notes:

¹ US federal government and agency securities, debt and securities issued by US state and municipal governments and government sponsored enterprises, and derivatives on these securities are exempt from proprietary trading restrictions of the Volcker rule.

² The Dodd-Frank Act subjects US banks with assets in excess of USD 50 billion to more stringent requirements. Similar requirements have been proposed, under the recent Intermediate Holding Company proposal, for non-US banks with more than USD 50 billion in global assets that have a systemically important presence in the US.

Source: Act Local But Think Global; Can the Volcker, Vickers, and Liikainen Structural Measures Create a Safer Financial System? IMF Staff Discussion Note 13/4.

5.4. ON THE OTHER HLEG PROPOSALS

Now let me continue with a few words on the rest of our proposals.

The proposal for an additional separation requirement supports the goal that supervisors should have effective tools to make sure that banks' recovery and resolution plans can actually work. If supervisors see that banks try to test the separating line, say, between proprietary trading and the permitted parts of market making, hence also endangering the resolution and recovery plans, a more far-reaching separation of trading activities could be imposed on such banks. In the group we highlighted the importance of the European Banking Authority's (EBA) role in ensuring that the recovery and resolution plans and the integral resolvability assessments are applied uniformly across Member States.

Our analysis of capital requirements was also reflected in our final recommendations. Here we acknowledged the important work done by the Basel Committee on Banking Supervision in reviewing the trading book capital requirements. Moreover, we highlighted the importance of the evaluation of the capital requirements on real estate related lending, an issue which is currently on the agenda of for example EBA.

Investor bail-in lies at the core of tackling the too-big-to-fail problem as it improves the loss absorbency of banks, ensures that investors rather than taxpayers take on the responsibility for losses in the face of resolution, and further enhances creditors' incentives to monitor banks. In the High-level Expert Group we foresaw a two tier system for the bailing in of investors in bank debt.

The bail-in process which was outlined by the Commission in the proposed Bank Recovery and Resolution Directive plays a key role in facilitating orderly restructuring or winding-up of banks without the prolonged bankruptcy proceedings. We proposed that there would be an additional layer of designated bail-in instruments to further improve the loss-absorption capacity of banks. We believed that this would best combine loss absorbency and market discipline with legal certainty and the stability of markets. The designated bail-in instruments would have clear pre-specified terms and holding restrictions which would prevent other banks from holding these debt instruments. The holding restrictions would reduce the risk of contagion within the banking sector and thus constrain the fear of triggering a systemic crisis at the time of a capital conversion or a write-down.

In addition, we proposed that the governance and control of banks ought to be strengthened further. Particular attention ought to be given to the ability of management and boards to run large and complex banks, the powers of the risk management function and the quality, comparability and transparency of risk disclosure, the possibility to use designated bail-in instruments in remuneration

schemes, and the appropriateness of imposing caps on variable as well as overall compensation. We also saw the need to enhance the sanctioning powers of supervisors so as to ensure enforcement of risk management responsibilities.

5.5. HOW THE HLEG PROPOSALS ADDRESS THE MALIGN DIAGNOSIS OF THE SIZE AND STRUCTURE OF THE BANKING SECTOR

Subsidiarisation of trading facilitates resolution by making bail-in rather than bail-out a more credible option. The recommendation that banks should have a layer of designated bail-in instruments further supports the aim of making bank bail-out at taxpayers' risk only a rare exception. Only functions that are essential to the functioning of the society, *i.e.* the deposit taking and payment system, would benefit from a government guarantee. As a result, the separated trading activities will be funded from the market at a price better reflecting the true riskiness of the operations. This is expected to restrain incentives for excessive growth and risk taking in the trading entity.

The recommendations will not only have an impact on the size of the financial sector, but also on what kind of operations there will be. First of all the proposals reduce the distorted incentives which endangers socially optimal allocation of resources. For example, as the subsidy of the implicit government guarantee is reduced, competition particularly in the trading activity is revitalised, which will improve the allocation of funds in the economy. Moreover, separation restricts banks with insured deposits from engaging in high-risk trading activities which are not essential to deposit banking. The efforts of the deposit bank are thus expected to be redirected towards servicing the needs of households and SMEs better.

The interconnectedness within the banking sector and thus the complexity of the financial sector will be affected too. As intra-group financing and transfers of capital or risks between the deposit bank and the trading entity will be limited, there will be fewer channels of contagion. Further, limits on trading activities will reduce the counterparty risks of deposit banks. There is, however, need for further research on financial networks, focusing on the effects of structural reform. These issues are notoriously difficult to measure. So we need to know more about how the complexity of the financial system can be monitored and effectively reduced.

And, finally, the recommendations will have an impact on how banking business is conducted in the future. The primary aim is to shift the focus from short to long term, which is more in line with the interests of the real economy and society. I

would also like to emphasise the importance of eliminating the presumption that profits are private, but downside risks are public. In the future risk-takers will also have to take into account the potential losses from their bets.

Efficient market discipline as well as active and timely supervision must help ensure that the financial sector and banks in particular find a more healthy size and structure. Our recommendations seek to facilitate this task. Simpler structures will make it easier for both investors and supervisors to monitor banks. Moreover, the recommendation to improve the quality, comparability and transparency of risk reporting will further facilitate monitoring of banks. Our recommendations for separation not only facilitate monitoring by supervisors, but the additional layer of designated bail-in instruments which we propose should also increase large creditors' incentives to monitor banks and thereby improve market discipline.

5.6. CONCLUDING REMARKS

As major regulatory reforms are planned after the crisis, it is important to take in account what research has to say. I have emphasized the increased attention paid to incentives and risk taking. Before the crisis the consensus view held, with some qualifications, that growth in finance promotes economic growth. After the crisis, the possibility that the financial sector can also grow too big has been taken more seriously. Accelerated growth of the financial sector may indicate a looming crisis. Therefore restrictions may be needed, and we need to make sure that distorted incentives within the financial sector are minimized. Improving the quality of finance continues to be a key priority in promoting sustainable economic growth. Structural reforms of banking should support these aims by helping to weed out distorted incentives from finance.

6. BANKING REFORM AND MACROPRUDENTIAL REGULATION: IMPLICATIONS FOR BANKS' CAPITAL STRUCTURE AND CREDIT CONDITIONS^{1,2}

Paul Tucker

Although the current reform programme rightly extends to the capital markets – over-the-counter derivative markets, clearing houses and shadow banking for example – nevertheless banking is at its core. So today I am going to draw out some of the implications for the credit system – starting with the micro regulatory regime and banks' capital structure; and then moving on to the introduction of new *macroprudential* policies and their effect on credit conditions.

6.1. MICRO REGULATORY REFORM AND BANKS' CAPITAL STRUCTURE

At a micro-level, the banking reforms have two important components. A step change in regulatory requirements on capital, leverage and liquidity, in order to reduce the probability of banks failing. And recognising that failure cannot and should not be ruled out, establishing credible and effective resolution regimes. Separately and in combination, they will change how the risks in banks' portfolios are distributed across shareholders, bondholders, depositors and, perhaps most important, taxpayers.

6.1.1. Resolution regimes: rolling back the implicit subsidy from the state

The most fundamental effects prospectively flow from making orderly resolution credible for the largest and most complex firms. Funding costs for any banks where bailout was still confidently expected would be heavily subsidised, as in the past. Where there was uncertainty, there would tend to be somewhat subsidised funding combined with a bias to shorter-term financing which could run at signs of trouble. But such 'regimes', if they merit that description, are unsustainable.

¹ Many thanks for input and conversations to Steve Cecchetti and Anil Kashyap and, at the Bank, James Benford. For secretarial support, to Sandra Bannister, Alexandra Ellis and Vicky Purkiss.

² Speech given at the SUEF/Bank of Finland Conference, *Banking after regulatory reform – business as usual*, Helsinki Thursday 13 June 2013.

Policy is clear: taxpayers should not provide solvency support to banks. Instead, losses exceeding a bank's equity base should fall on bondholders and other uninsured creditors, in line with the creditor hierarchy that would apply in bankruptcy³.

Other things being equal, exposing the holders of bank bonds to risk will tend to increase the overall cost of finance for banks during normal times compared with the past. Earning a fixed return but exposed to downside risk, investors in, especially, longer-term debt will be a source of market discipline. That is likely to incentivize banks to be better capitalised than in the past – through some combination of less levered balance sheets and less risky business activities. For society at large, the counterpart is that, with a lower probability of failure and credible plans in place to resolve banks without recourse to public funds, government bond yields should be lower than otherwise and the public finances more resilient.

6.1.2. Re-regulation of the capital structure

What about the effect of the reforms to the regulatory-capital regime? They affect the distribution of risk between the holders of bank equity and the holders of bank debt of various kinds.

When fully implemented, and taking into account equity surcharges of up to 2.5 pp for systemically important institutions, Basel 3 increases equity capital requirements by almost an order of magnitude⁴. That means that, in the future, banks will be able to absorb bigger losses while remaining a going concern. In other words, more of the risk in bank portfolios is being pushed onto shareholders, leaving less with the creditors. But perhaps less clear is the impact on banks' overall funding costs.

Will there be any effect at all? Over 50 years ago, Modigliani and Miller famously showed⁵ that, under certain restrictive conditions, a firm's overall cost of funds does not depend on how it is financed. Equity is more expensive than debt finance, because it absorbs losses first. Increasing the proportion of a firm's

³ For an outline of the keys steps necessary to further the progress already made by the international regulatory community on resolution since the crisis, see Tucker (2013), "Resolution and the future of finance".

⁴ Basel 2 in effect required a minimum equity capital ratio of 2 percent. But under Basel 3 there is a greater focus on the equity that is truly free to absorb losses. As such, almost all regulatory deductions from capital are to be made from equity rather than being split across tier 1 and so-called tier 2 'capital' or made from total 'capital'. Also, some risk-weights are increased; for example, on counterparty credit risk exposures. Together those changes mean that an old Basel 2 core tier 1 minimum risk-weighted asset ratio of 2% is equivalent to around 1% on a Basel 3 basis. Taking into account the capital conservation buffer and the surcharge for systemically important financial institutions, for the largest banks the Basel 3 equity minimum comes to around 10% (plus any Pillar 2 buffers).

⁵ For the original paper, see MODIGLIANI and MILLER, 1958, "The Cost of Capital, Corporate Finance and the Theory of Investment", *American Economic Review*, 48, 261-97. Later papers by the same authors addressed the implications for their result of tax, bankruptcy costs etc.

balance sheet funded by equity increases the share of that higher-cost form of financing. But it reduces the risk to debt-holders, causing debt-financing costs to fall; and the cost of each *additional* unit of equity also falls as the balance sheet becomes less levered. The Modigliani-Miller proposition is that the two effects offset exactly, leaving the overall cost of finance unchanged. The argument is simple: so long as the returns on a firm's portfolio of assets – *i.e.* its business – do not vary as its financing structure changes, the total cost of its funding is invariant to how those returns and risks are divided up between shareholders and debt-holders.

If that were true, there would be no cost to banks, or to the real economy, from ever higher equity requirements. Nor – and this point is rarely made – would there be an objection to the opposite: ever higher leverage in ever more thinly capitalised banks. In reality, a number of features of the real world break the Modigliani-Miller result.

As for all firms, interest paid by banks on debt is deductible from corporation tax, which reduces the cost of debt relative to equity. Other things being equal, the average cost of funding can therefore be reduced by issuing debt. That cost advantage should be largely passed on to customers⁶.

In addition, banks are special in that they fund themselves with retail deposits, which provide monetary services: the nature of banks' liabilities are central to their business, not just how their business is financed. Many of those deposits are protected by guarantee schemes. Interest rates on transactions deposits are, therefore, not especially sensitive to the risks a bank is running, making it cheaper for banks to fund themselves via this particular form of debt finance. Unlike a normal firm, part of the value of a bank does depend upon its capital structure.

There is also a deeper point here about the wider benefits to the economy of the maturity-transformation services delivered by banks financing their longer-term loans with monetary liabilities. Under fractional-reserve banking, combining the provision of both demand deposits and committed lines of credit, banks offer liquidity insurance to their customers⁷. That enables households and firms to economise on stocks of liquid savings, releasing more of the economy's savings to the risky projects that help drive growth over the long term. There are social benefits from deposit-financing of banks.

But not everything about banks points towards more leverage, or towards taking on leverage via regular debt rather than monetary deposits. Most obviously,

⁶ This assumes a bank's post-tax return on equity is determined, given the riskiness of the bank's business, in competitive global capital markets, with excess returns competed away. That implies that a fall in tax burden due to higher debt financing is passed onto banks' customers.

⁷ See KASHYAP, RAJAN and STEIN, 2002, "Banks as liquidity providers: an explanation for the coexistence of lending and deposit-taking", *Journal of Finance*, Vol. 57(1), pp. 33-73.

Modigliani-Miller assumes that there is no difference between, on the one hand, shareholders bearing losses through lower dividend payments and, on the other hand, a firm's creditors bearing losses through the bankruptcy proceedings that follow default or insolvency. This is manifestly not true for banks.

First, as a bank approaches the point of failure, short-term funds will tend to run, with the value of its assets reduced by forced sales to generate liquidity. Second, beyond the point of failure, there are substantial costs – and not only the fees of the administrators, which are common to the bankruptcy of firms of all kinds. Crucially, bankrupt banks find it harder to collect their debts and to enforce contracts; counterparties will close out derivative and repo contracts if they can. The funds diverted to those counterparties reduce the amount available to others, intensifying the scramble to get to the front of the line. For non-financial firms, an automatic stay mitigates a disorderly destruction of value. But banks are in the business of circulating funds and cannot function under a persistent payment freeze. There are also wider economic costs. Smaller firms without easy access to public debt markets face switching costs if they have to establish new banking relationships. While they are searching for new credit, they are likely to cut spending, adversely affecting the economy⁸. Failure therefore brings substantial costs, for both the failed bank's creditors and wider society. The equity owners need not internalize all these costs so debt finance should carry a risk premium, incentivising equity to be preferred over debt, *i.e.* lower leverage⁹.

Taken together, these various departures from Modigliani-Miller's simple world mean that a bank's overall funding costs do depend on its capital structure, but in a non-linear way. So long as a bank's capital buffer is sufficient to make the perceived probability of bankruptcy remote, the bank will most likely want to economise on equity, if only for tax reasons. By contrast, if capital levels are too thin, bankruptcy will be a real possibility. Economising on equity capital is then likely to prove counter-productive as debt-holders, with an eye to the costs of resolution or liquidation, will demand ever higher rates of interest.

Whether it is liquidation or resolution that beckons makes a difference, as resolution can materially reduce both the private and social costs of bankruptcy. Relative to a world in which liquidation is a credible threat, having an effective

⁸ See KASHYAP, LAMONT and STEIN, 1994, "Credit Conditions and the Cyclical Behaviour of Inventories", *The Quarterly Journal of Economics*, Vol. 109, Issue 3 (Aug. 1994), P565-592. That bank failure itself has wider spillovers, through impaired credit availability, is itself another departure from Modigliani-Miller, which assumes that all households and firms have symmetric access to credit markets.

⁹ In addition, the management of the bank will find themselves out of a job. In contrast to the managers of failed firms in other sectors, they face regulatory hurdles to re-entering the industry. That provides a clear incentive to avoid a fragile capital structure. As widely discussed, that needs to be reinforced by remuneration packages that expose their wealth to downside risks. Agency issues internal to banks are not covered in my remarks today. For a discussion of those agency issues, see TUCKER, 2013, "Competition, the pressure for returns and stability", a chapter in book edited by DOMBRET and LUCIUS, 2013, *Stability of the Financial System: Illusion or Feasible Concept?*

resolution regime will tend to reduce the cost of bond finance and so increase its share in the capital structure. But as explained earlier, it will tend to raise the cost of bonds and reduce their share in the capital structure relative to a state of affairs in which government bailouts are confidently expected. Effective resolution regimes are, therefore, necessary to give bank investors and managers incentives to adopt a prudent capital structure.

But even then a bank's private choice of capital structure will not deliver a satisfactory outcome for society as a whole due to the spillovers and negative externalities of failure. Resolution can help to reduce those spillovers, but banks must be required to have an overall capital structure that makes orderly resolution feasible. I shall return to that after bringing in another set of considerations.

6.1.3. Costs of raising equity

So far this discussion has essentially been what economists call an exercise in comparative statics: would you choose to finance a new bank mainly with debt or mainly with equity? I have skated over what happens when a firm thinks about changing its capital structure. There are two issues.

The first arises from asymmetric information. That can make equity issuance expensive if investors worry that a new issue signals that management believe the share price is too high, *i.e.* the assets and earnings streams are worth less than the market has thought. That can occur even if a bank was not in jeopardy, just not as well capitalised as it should be. One way of overcoming this is for the prudential regulator to make a firm raise the required equity capital once the deficit is identified. Another way might be for banks to issue so-called *high-trigger* contingent capital instruments (CoCos), *i.e.* bonds that convert into equity if a bank's capital ratio falls below a prescribed but reasonably high level. In steady state, for a bank with a minimum equity ratio of 10%, that trigger might be, say, 8%: sufficiently below the required level for the insurance provided by these CoCos not to be prohibitively expensive, but sufficiently high that the bonds would convert to equity while the bank was still able to fund itself in the market¹⁰.

The second, and in some ways bigger, issue relates to the problem of a debt-overhang¹¹. Suppose, due to a marked deterioration in the macroeconomic environment, a bank's equity base, even after the conversion of high-trigger CoCos, is revealed to be too thin to cover the risks in the business. Debt spreads

¹⁰ The capital ratio in the trigger would need to be based on the Basel 3 definitions applying at the end of the transition period.

¹¹ See MYERS, 1977, "Determinants of Corporate Borrowing", *Journal of Financial Economics*, 5, 147-75.

rise and, in consequence, the value of bonds in issue falls. An injection of fresh equity would increase the value of the business, by reducing the probability of bankruptcy. But since bond-holders ultimately pay the bankruptcy costs, they and other creditors would be the main beneficiaries of recapitalisation: there would be a transfer of resources from equity holders to bond holders. Shareholders in a poorly capitalised firm have an incentive, therefore, to keep their hands in their pockets and gamble that the economy, and with it their bank, improves.

A particular problem could arise if losses were large enough to exhaust any high-trigger CoCos, leaving the bank undercapitalised, but not so severe that solvency was in the balance. By limping on and deleveraging, the bank's supply of credit to the economy would be impaired. An option to force a recapitalisation in such circumstances might be CoCos with *low* triggers. But the bank might suffer a run, becoming unviable and requiring resolution, before its measured capital ratio fell through the instruments' trigger point. Any such bonds must, therefore, convert into equity and take 'first loss' upon entry into resolution. That is, I think, the best way of thinking about so-called Point-Of-Non-Viability (PONV) instruments counted towards "total capital" in the current Bank Capital Accord¹².

6.1.4. A Capital Accord for the future

In summary, the system cannot be relied upon to recapitalise itself as the probability of failure rises. There is, therefore, a premium on getting micro-prudential rules for minimum capital broadly right rather than, as happened in the past, badly wrong. On the one hand, if the equity cushion proves to be too thin, the system might well fall over. On the other hand, if banks are forced to hold too much equity, there is a risk of choking off the truly valuable liquidity services that deposit-taking banks provide to the economy.

Looking ahead, this analysis points to the general shape of a richer regulatory Capital Accord for the future – one that distinguishes more carefully between the different phases of a bank's life and death.

Regulatory intervention is plainly required to set a minimum level of equity to provide sufficient *going-concern* loss absorbency. That is the core purpose of the existing Basel 3 Accord. But it is not enough. We also need to regulate for a minimum level of term bonded debt to provide *gone-concern* loss absorbency¹³.

¹² Total capital is in quotation marks here because this is not capital in the same sense as equity.

¹³ I have argued before that the minimum for *gone-concern* LAC should not be less than a banks' equity requirement. Otherwise upon insolvency, it cannot be recapitalised back to the regulatory requirement. See page eight of TUCKER, 2013, "Resolution and Future of Finance".

In effect, in return for the private cost saving due to the tax regime, the authorities would be mandating *term* bond issuance of a minimum quantity from prescribed parts of banking groups in order to make resolution feasible.

Contrary to some of the academic literature, this gives value not to *short-term* debt on the basis that it can run and so acts as a disciplining mechanism, but rather to *longer-term* bonds. They can absorb losses, helping to recapitalise the firm in resolution; and can thus be a source of market discipline through price and rationing¹⁴.

That might be enough. I would expect, for example, that package to incentivise banks and their investors to issue and buy securities with conversion features that helped them through recovery or resurrection *without* the intervention of, respectively, the regulators or the statutory resolution authority.

Alternatively, a richer Accord might go further, mandating so-called *high-trigger* CoCos, so as to encode recovery measures into a bank's capital structure. And it might even include *low-trigger* instruments to aid resurrection when a bank had seriously impaired equity but was not on the brink of bankruptcy. Taken together, that would be a robust Accord for normal times (equity); for recovery (high-trigger CoCos); for resurrection (low-trigger CoCos, or PONV instruments); and for resolution (term bonded-debt issued from the top of the group)¹⁵.

6.2. MACROPRUDENTIAL REGIMES AND THE COST OF FINANCE

Are reforms to resolution regimes and capital requirements – even a more complete Capital Accord along the lines I have sketched for almost the entire capital structure – sufficient to preserve systemic stability? The clear answer of the authorities to that is they are not sufficient, which is revealed by our creation of macroprudential regimes. That is for two reasons.

First, any realistic regulatory capital regime, however rich, will sooner or later be found wanting due to regulatory arbitrage or an economic environment that is more risky than anything contemplated when it was calibrated. The authorities need to be able to respond to the system's evolving structure, or temporarily tighten capital requirements while the especially threatening circumstances last.

¹⁴ See ADMATI and HELLWIG, 2013, *Does Bank Debt Discipline Bankers? An Academic Myth about Bank Indebtedness*. While Admati and Hellwig point out the deficiency of short-term debt as a source of market discipline, they pay insufficient attention to longer-term debt given its role in recapitalising banks under resolution.

¹⁵ Or, more accurately, from whichever parts of the group were going to be resolved together as a unit under the preferred resolution strategy. See forthcoming Guidance from the Financial Stability Board.

Second, behaviour within the financial system itself can generate elevated risks. And that tendency towards exuberance is not solely down to moral hazard.

Quite apart from TBTF, another driving force comes from myopia – a tendency to overlook risks in banking during buoyant conditions¹⁶. Eventually risk does crystallise, prompting bankers and investors to wake up to the overvaluation of their assets and excessive leverage in the system. Credit tightens, exacerbating the macroeconomic downturn, and so on. Solving the TBTF problem is absolutely necessary but will not be sufficient to consign boom and bust to the past. Banking systems comprising lots of small banks have been capable of driving themselves over the cliff.

For regulation to respond dynamically to changing circumstances in order to preserve systemic stability, macroprudential policy is needed. In the United Kingdom, the primary objective of the new Bank of England Financial Policy Committee (FPC) is to protect and enhance the resilience of the UK financial system, with a subordinate objective of supporting growth and employment. As well as being able to make Recommendations to the UK prudential supervisors and securities regulators on anything relevant to stability, Parliament has given the FPC power to *direct* changes in capital requirements for banks.

6.2.1. Macroprudential tools and system resilience

In some ways, the effects of a temporary change in macroprudential capital requirements will be similar to a permanent change in the capital regime. An action to increase banks' equity base by, say, 10% will increase their loss-absorbing capacity by 10%. That leaves the system better placed to cope with losses should they crystallise.

As such, irrespective of whether the action dampens the boom phase of the credit cycle, it will reduce the severity of the bust. Fewer, if any, banks will fail; a tightening in credit supply is therefore less likely to become a full-blown credit crunch; the resulting slowdown in output growth should be less severe; the default rate on bank loan portfolios lower; and so on. I rehearse that because the primary objective of a macroprudential intervention – improving the financial system's resilience – can be progressed even if the credit boom itself is not tempered much.

¹⁶ See GENNAIOLI, SHLEIFER and VISHNY, 2012, "Neglected Risks, Financial Innovation and Financial Fragility", *Journal of Financial Economics*, 104, No. 3: 452-468; and TUCKER, 2011, *Discussion of Lord Turner's lecture "Reforming finance: are we being radical enough?"*, Clare Distinguished Lecture in Economics, Cambridge.

6.2.2. Macro-prudential measures and credit conditions

Nevertheless, whether macroprudential interventions could quell a credit boom is important. That turns largely on the effects on the cost of finance. I worry that too much of the analysis of this area is oversimplified, assuming blandly that an increase in capital requirements will always and everywhere lead to tighter credit conditions, and so slow the boom. I would be surprised if that were a universal law.

A required substitution to more expensive equity finance will, indeed, tend to push up banks' funding costs, but the effect on *overall* funding costs will depend on whether, and by how much, debt financing costs fall due to a lower probability of bankruptcy.

Crucially, there is an important difference between, on the one hand, banks having to have more equity in steady state and, on the other hand, an intervention by a macroprudential body to increase capital requirements temporarily. The macroprudential body's policy action will reveal information. Borrowing some language from the literature on monetary policy, it sheds light on the policymakers' views on the current risks to stability (the state of the economy and/or the financial system itself), and also on how the Committee reaches policy decisions (its reaction function).

A few examples serve to illustrate the point (Figure 6.1).

A first distinction is between interventions in the boom and bust phases of a credit cycle. Imagine that some information came along to suggest that the banking system, while adequately capitalised currently, will taken as a whole be stretched down the road if credit continues to expand rapidly. Assuming for the moment common information to the market and the authorities, in this case a macroprudential intervention to require banks to build up capital in order to underpin their resilience in the period ahead might add only a shade to the cost of finance, as banks lose a small proportion of their tax shield. And if banks choose to de-lever, shedding risk to achieve the temporarily higher capital requirement, that action in itself might slow the boom.

Now imagine a scenario in which information came along to reveal the system was seriously under capitalized *right now*. Maybe a bubble had gone unnoticed until it burst or some banks or funds unexpectedly fail, revealing inadequacies in the regulatory regime. Once the market came to appreciate that capital levels were too thin, funding costs would rise sharply. In those circumstances, an injection of additional capital, if it could be achieved, could help to bring financing costs back down. Although reliance on relatively expensive equity would be increased, that is dominated by a large fall in the cost of debt finance as failure becomes a more remote possibility.

In this hypothetical scenario, the policymaker has something of a tightrope to walk. For an individual bank, cutting risk exposures by reducing lending might at first blush seem to be a step towards restoring capital adequacy. For the system as a whole, however, it would clearly be counterproductive for all banks to delever in that way. The better path, not only for economy but for individual banks as part of the financial system, would be for banks to strengthen their capital structure so that credit supply was not impaired.

A second distinction is between the market and the macroprudential policymaker having the same information and views on what ought to be done (Column 1, Figure 6.1) and their having different information and views.

Most interesting are those cases where the market and the FPC are out of synch. Suppose the market spotted first that the system was dangerously under capitalised. Banks’ debt funding costs would rise sharply and would remain elevated until the market saw evidence that either the banks or the authorities were grasping the nettle. A belated but decisive action to raise capital levels would then come as welcome news (Column 2, Row B). Funding costs should fall back, perhaps significantly, and credit conditions could well ease. That would take some of the edge off the downturn. I want to stress that in this particular hypothetical scenario, an increase in capital requirements has the effect of easing credit conditions.

Figure 6.1: Impact of an increase in capital requirements by the Financial Policy Committee

		View of Market on FPC’s assessment of system capital adequacy			
		(1) Agrees and expected FPC action	(2) Ahead of FPC	(3) Behind FPC (but when FPC acts, worries it might not have done enough)	(4) Shares FPC’s information but disagrees that system lacks capital
State of business and credit cycle	(A) Boom	Debt spreads broadly unchanged	Debt spreads fall	Debt spreads potentially rise	Debt spreads broadly unchanged
	(B) Bust	Debt spreads broadly uncharged / fall slightly	Debt spreads fall significantly	Debt spreads potentially rise, could exacerbate downturn	Debt spreads broadly unchanged

Note: Shading/colour indicates direction of change in overall financing costs, and hence likely impact on credit conditions. Shading (solid colour) denotes a fall (rise) in overall financing costs and hence an easing (tightening) in credit conditions.

Alternatively, the FPC might spot the risk to the system ahead of the market. Debt and, consequently, credit spreads might have been low for some time, with some sectors of the economy taking the opportunity to lever up. Having failed to spot the risks early, the FPC moved to require more capital in the system only once the

credit cycle had turned. For its part, it was only upon seeing the FPC's action, that the market became alive to the risks. It is possible that, having woken up, the market, though somewhat reassured that some action is being taken, worries that the FPC has not done enough. In that case, debt spreads might rise at the same time as banks switch towards more expensive equity financing (Column 3, Row B). Credit conditions could tighten, slowing the economy and so exacerbating the situation.

A final variant (Column 4, Row B) would be that although the market and the FPC share the same information set, the market thinks an increase in capital requirements is unnecessary. In that case debt spreads, having already been low given the market's view of the risks, would not fall. Firms overall funding costs might even rise slightly, given the required switch to more expensive equity financing. But, crucially, the system would be more resilient and any eventual bust should be less severe.

These examples serve to illustrate that it is unlikely to be as simple as: a rise in capital requirements entails tighter credit conditions. Where there are question marks over the system's capital adequacy, the reverse can sometimes be true. More generally, the first round effects on credit conditions will depend upon whether the policymaker's actions revealed information about the state of the system and its approach to policy, and on whether the market regarded the actions as warranted, insufficient or too much. Overall, this underlines the importance of transparency – from banks and from the macroprudential policymaker.

6.3. CONCLUSIONS: THE IMPLICATIONS OF REFORM FOR THE SHAPE OF FINANCE

Cyclical fluctuations in credit conditions and macroprudential interventions to influence them will not play out in an unchanged financial system. In fact, it would be surprising if the market's own response to the crisis and the regulatory reforms did not drive structural changes in the credit system. The shape of some can perhaps be discerned.

Too-Big-To-Fail effectively subsidised longer-term bond finance for banks. Combined with lax liquidity regulation, this probably left the sector as a whole with larger and longer-maturity asset portfolios than otherwise. A few decades ago we used to talk about government crowding out the private sector from the capital markets. Well, the bloated balance sheets of TBTF firms essentially crowded out other long-term investors from parts of the credit markets. Unlevered sources of funds struggled to compete with the banks, but instead held

lots of bank paper, thinking it risk free. Competitors to the banks had to lever up: fragile shadow banks were one result.

Actions to remove the subsidy from banking will, amongst other things, create conditions in which the relative role of unlevered capital market investors can grow. Some of that might come through securitisation, although a mature and resilient market in ABS of loans to SMEs might well require initiatives to produce rich data sets on credit histories. The time may have come to evaluate the utility of the central credit registers that have long existed in some continental European and Asian countries.

None of that, however, can alter banks' core comparative advantage as monetary institutions: the provision of liquidity through overdrafts, lines of credit and other working capital facilities. That role might be aided by a revival of a market in trade credit¹⁷.

Banks will always be levered because their core monetary service revolves around transaction-account deposits, which are debt liabilities. And, on the other side of the balance sheet, they will always have somewhat risky asset portfolios because being a monetary institution makes them an efficient supplier of short-term finance to households, firms and the rest of the financial system.

But they can do all that only if they are healthy and prosperous: only sound banks can make a credible promise to repay or lend money on demand.

The fragility in banks' balance sheets is why they are regulated. Today, I have sketched the outline of a Capital Accord for the future. An Accord that would go beyond reducing the probability of failure, by also addressing the need to cope with distressed banks, ensuring that resolution can be orderly. Taking the tax-deductibility of debt interest as a given, the banking authorities can make it beneficial to society as a whole, not just to private interests, by requiring that a minimum level of term bond finance be part of the capital structure. That would provide gone-concern loss-absorbency for new improved resolution regimes to draw on. A still richer Accord might include instruments that aid recovery by converting into equity in the face of meaningful but not life-threatening losses. This approach moves away from seeing runnable short-term wholesale debt as a source of discipline on banks, to instead seeing longer-term bonds as providing a mass de manoeuvre for recapitalizing distressed banks. Not all forms of leverage are the same.

¹⁷ I worry about the withering away of a market for bankers' acceptances; claims by one company on another, but guaranteed by one or more banks, and historically eligible for discount at central banks. As I have said before, corporate treasurers, bankers and central banks could usefully work together on this. See TUCKER, 2012, "Credit conditions for firms: stability and monetary policy".

But no static regime can ever be enough. If they were, crises would not recur. That is why the new macroprudential authorities, such as the Bank of England's FPC, will be able temporarily to adjust capital requirements when circumstances warrant. I have stressed that it is oversimplistic to think of macroprudential interventions to improve capital adequacy as always inevitably leading to higher funding costs and tighter credit conditions. It will depend upon the prevailing circumstances: whether the banks started out with solid balance sheets, what the market knows and thinks. The FPC will need to be transparent in order to build understanding of its actions.

More resilient banking systems will enhance the capacity of monetary policy to underpin growth in an economic downturn. And reduced financial system and macroeconomic risks should make the cost of finance less volatile, helping businesses and households to plan for the future. It will be a while before confidence in the system is restored, and never again should confidence be so blind. But if the destination lies further ahead, we do know where we are going. And that itself should be a source of strength, helping our economies to recover.

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