

Comments to the UK Independent Commission on Banking

Anat R. Admati and Martin F. Hellwig¹

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¹ Admati is the George G.C. Parker Professor of Finance and Economics, Graduate School of Business, Stanford University; email address admati@stanford.edu; Hellwig is a director of the Max Plank Institute for Research on Collective Goods, Bonn; email address hellwig@coll.mpg.de

1. Introduction

The Chancellor of the Exchequer is to be commended for appointing this outstanding Commission to examine issues of extreme importance to the UK economy and beyond. The Chancellor, and the Independent Commission on Banking (ICB) are correct to be concerned with seeking possible reforms to ensure that the financial system works to benefit the UK economy without imposing unnecessary risks and costs on UK citizens. The UK, by appointing the ICB, has embarked on a serious attempt to understand the issues that have plagued the banking and broader financial system and to devise appropriate responses. This effort places the UK ahead of many if not most nations, and, again, is to be commended.

Neither of us writing this response is a UK citizen. However, in light of the leadership position that UK is taking by appointing and supporting the ICB, and in response to the Commission's genuine desire to seek broad input that would inform its recommendation, we are happy to contribute our views, based on our assessment of the issues and the possible approaches that are being considered, to the ICB's deliberations. While this document is tailored specifically to respond to the ICB report, much of the content is relevant to many nations. As the recent financial crisis has shown, the issues and challenges of the global financial system share many of the same themes across a wide range of jurisdictions.

The document is organized as follows. In Section 2, we provide a brief overview over the thrust of the ICB Report and our responses to the Report's Consultation Questions. Section 3 provides a thorough discussion of the policy objectives for the banking system that are set out in the ICB Report. This discussion provides, in particular, a comprehensive and systematic overview over the demands of the financial stability objective. We also question the appropriateness of a wholesale acceptance of concerns for the competitiveness of the UK Financial Sector. Subsequently, Section 4 considers the ICB's reform proposals. In this section, we discuss the suitability of the different instruments considered for the pursuit of the objectives named by the ICB, most importantly, financial stability.

As is the nature of such responses, our text contains many criticisms of statements in the ICB Interim Report. We wish to emphasize, however, that there are also many points with which we agree. In particular, we share the view that the recent financial crisis calls for a thorough examination of financial stability concerns and for reforms that will much reduce the prospect of such a crisis recurring in the future. Our response can perhaps be summarized in the assessment that, while the ICB's concerns about financial stability are of overwhelming importance, we feel that the reform proposals do not go far enough to allay these concerns. This being said, we wish repeat the above commendation of the Chancellor of the Exchequer and the ICB for the seriousness with which they approach the problem of reform in the wake of the financial crisis.

2. A brief summary of the ICB Interim report and our responses

The ICB Interim Report states that there is a need for reform in the UK banking sector. This assessment is based on the experience of financial instability and the fallout from financial instability in the crisis (Items 2.10–2.35) and on a fair amount of evidence concerning a lack of competition in the UK financial sector (Items 2.36–2.90). The ICB is therefore intent on promoting the objectives of *financial stability* and of *competition in banking* while also considering *lending and the pace of economic recovery*, the *competitiveness of UK financial services and the wider economy*, and the *risks to the Government’s fiscal position*. The last point is motivated by a desire to minimize the danger that, on some future occasion, the Government may again find itself in a situation where a bank in difficulties is considered to be too important to fail, and taxpayer money has to be committed to bail the bank out.

To promote these objectives, the ICB is proposing the following measures:

- *Structural interventions* designed to ring-fence retail banking in order to protect depositors and to protect the payments system against the fallout from risks inherent in the banks’ other operations, most importantly, investment banking and the banks’ own trading books. Ring-fencing is also considered to ease problems in resolution.
- *Stricter regulation of funding* is intended to improve the banks’ ability to absorb losses. In ring-fenced retail banking, the proposed regulation goes beyond the requirements set out in the new Basel Accord (“Basel III”). In other areas, the ICB considers Basel III requirements to be sufficient. For ring-fenced retail banking, the ICB proposes a combination of an additional equity requirement (above Basel III) and an further requirement calling for additional equity or contingent-convertible debt.
- A variety of *competition policy measures* are intended to reduce concentration, remove barriers to entry, and affect behavior so as to enhance the intensity of competition in the financial sector.

In the following, we discuss the different objectives and the instruments proposed for achieving them. Unfortunately, the ICB Report is not always clear about the relation of the different objectives to each other, conflicts and tradeoffs, or the relative importance that is to be assigned to each of them. The Report is also not always clear about the precise mechanisms by which the reforms that are being proposed will achieve the objectives.

Below we give a summary of our responses to most of the Commission’s consultations questions, which also includes a road map to the rest of this document.

Response to the ICB Consultation questions 1.1-4.9

Consultation question 1.1

Do you agree with the general position set out in this Interim Report?

We very much agree with the general assessment that more needs to be done to improve financial stability.

However, we have reservations whether the means proposed by the ICB will be sufficient for that purpose. Specifically:

- Ring-fencing of retail banking will be difficult to make effective (Section 4.2 of this document).
- No-bailout policies for non-retail parts of the financial sector will not be credible (Sections 3.1.2, 3.1.5, and 3.1.7 of this document).
- Proposals to enhance the loss absorbency of debt will be difficult to implement (Sections 4.3.3 and 4.3.4 of this document) and may give rise to too-big-to-fail problems of their own (Section 3.1.2 of this document).
- Equity requirements for the non-retail part of the financial sector are still much too low. For the retail part of the financial sector, they are also too low, but less so (Sections 4.3.2 and 4.3.5–4.3.10 of this document).

Consultation question 2.1

Do you agree with the analysis set out in Chapter 2?

We agree with the emphasis given to financial stability concerns. At the same time, we feel that there is too much emphasis on competition concerns. The latter are important but the stakes are not on the same order of magnitude as with financial stability. (On this point, see Section 3.2 of this document.)

As for the other objectives, we consider the emphasis on lending and on competitiveness as objectives of their own to be misplaced. In contrast, risks for the taxpayer are important; these risks are likely to be amplified by banks' reactions to the (unavoidable) existence of too-big-to-fail policies.

The analysis of financial stability lacks a comprehensive conceptual framework. Section 3.1 of this document explains what is needed. Such a framework should be designed so as to:

- Allow an assessment of tradeoffs between different objectives and different dimensions of financial stability
- Encompass all parts of the financial system so as to avoid shifting risks from banks, insurance companies, hedge funds, etc.

- Provide a detailed account of the different kinds of systemic risks and their interdependence with macro risks
- Provide a detailed account of time inconsistency problems associated with the different kinds of systemic risks arising from different types of financial institutions and financial markets.

Consultation question 2.2

Do you agree with the analytical framework?

In principle, our answer to this question is “yes”, but we would have liked to see a more detailed and concrete account of where the problems arise and how the instruments that are being envisaged would deal with them.

In particular, we would have liked to see more of an account of the systemic effects of bank problems and of the instruments that are being considered.

We also would have liked to see a framework that is suitable for assessing tradeoffs between different objectives and between the costs and benefits of different measures.

In the absence of such a framework, we have little faith in the results of the analysis.

Consultation question 3.1

Are there other reform initiatives, beyond those set out in Chapter 3 and Annex 5, which you consider it essential for the Commission to examine further?

Yes.

- We strongly urge the UK to take a role in promoting an international understanding on resolution (Section 4.1 of this document).
- The ICB should also consider the role of remuneration schemes (Section 4.3.7 of this response). Liability rules for managers (and possibly equity) should also be considered.
- The ICB should consider the role of higher equity requirements as a kind of circuit breaker in a crisis (Sections 3.1.3 and 3.1.5 of this document)
- The ICB should go further in its critique of risk weighting (Sections 3.1.5 and 4.3.8 of this document).

Consultation question 4.1

Should systemically important banks be required to hold more equity than Basel III requirements? If so, how much?

From a competition policy perspective as well as a fiscal policy perspective, much stricter rules for systemically important banks are called for (Sections 3.2 and 3.3.3 of this document).

Consultation question 4.2

Should UK retail banks be required to hold more equity than Basel III requirements? If so, how much?

Equity is not “held” but used to fund assets that are held. Higher equity requirements are advisable. However, such higher equity requirements should also be imposed on non-retail institutions. Systemic risks from retail banking may actually be smaller than systemic risks from wholesale and investment banking. Lehman Brothers was an investment bank. (See Section 4.2 of this document.)

Consultation question 4.3

Do you agree that bank debt should be made more loss-absorbing using some or all of contingent capital, bail-inable debt and/or depositor preference? If so, which of these tools do you support and how should they be designed?

Debt should be more loss-absorbing, but this should not be an excuse for low equity requirements (Section 4.3 of this document) because debt and hybrid securities have not provided, and are unlikely to provide in the future, reliable loss absorption.

Consultation question 4.4

In relation to structural reforms to promote stability, do you agree that the Commission should focus its work on a UK retail ring-fence?

No. The focus seems based on the notion that TBTF is concentrated in Retail. While retail is important for infrastructure, it actually seems less vulnerable, and TBTF in wholesale must not be forgotten (Section 4.2 of this document).

Consultation question 4.5

What are the costs and/or benefits of a UK retail ring-fence, and what approaches could be taken to analyzing them (noting Annex 3)?

We are skeptical about the effectiveness of a retail ring-fence as a means to protect retail banking from the risks of non-retail banking. Given this skepticism, we do not see a basis for providing a convincing account of costs and benefits (Section 4.2 of this document).

Consultation question 4.6

How should a UK retail ring-fence be designed (noting Annex 7)?

The key question is how much you can realistically interfere in the inner workings of a corporation? This question needs to be answered before one can think about design. More precisely, if retail banks have surplus funds from deposits and they invest these funds with their parent, what devices will prevent the dilution of a retail subsidiary’s capital position through a writedowns on the loans made to the parent? (Section 4.2 of this document).

Consultation question 4.7

Should the Commission pursue any other structural reforms to promote stability?

For all the costs that separation entails, it should be given a more thorough consideration. Separation puts retail and investment banking at arm's length from each other. This puts the funding of investment banking on a contractual basis, preventing funds from deposits from automatically becoming hostages of investment banking activities.

Consultation question 4.8

Do you agree with the Commission's assessment of the impact on the competitiveness of the City and the UK economy of the reforms it is considering? Can you provide further data and analysis in this area?

We agree with the assessment that there is unlikely to be a strong negative impact. This being said, we wish to draw attention to the fact that the treatment of "competitiveness" in the ICB Report is altogether lacking a proper conceptual framework (Section 3.3.2 of this document).

Consultation question 4.9

Do you agree with the Commission's intention to consider a package of measures, and do you think that some elements could be relaxed if others were strengthened?

In principle a package is fine. This particular package however comes across as a way to avoid controversial choices. Without such choices, however, the proposed measures will fail to achieve the financial stability objective.

3. The Objectives of ICB

3.1 Financial Stability as an Objective

3.1.1 The Need for a Conceptual Framework

As formulated by the ICB, financial stability is needed to safeguard the functions of the financial system. The functions are defined as provision of the payments system, provision of deposit-taking facilities and a store-of-value system, lending to households, businesses and governments, and helping households and businesses to manage their risks and financial needs over time (Item 2.4). Bank failures endanger these functions: They can cause a disruption of the payment system, an inability of depositors to access their funds, and a disruption of lending or of investment, trading and advisory services (Items 2.13, 2.29). Moreover, there can be contagion effects, either through direct exposures of other institutions to the failed bank or through a generalized collapse in confidence in financial institutions (Item 2.29). All these effects are particularly damaging if the bank in question is systemically important. Therefore, the ICB considers it necessary to

reduce the probability of failure of systemically important banks by improving their resilience and to reduce the impact of failure of systemically important banks by providing for orderly resolution and by reducing levels of risk in the financial system as a whole (Item 2.35).

Unfortunately, this account fails to provide an analytic framework within which to assess the promotion of financial stability by statutory intervention. Many of the points listed by the ICB concern the negative effects of an institution's failure on that institution's contractual partners. Such negative effects occur in any bankruptcy of a company in any sector. In other sectors, they are not treated as a matter of public concern and are mostly ignored under the rule of *caveat emptor*. The ICB's account raises the question why and in what sense precisely *caveat emptor* should not also apply in financial relations.

In this context, it is important to distinguish between the concerns of the contracting parties and the potential concerns of third parties that may also be affected. The ICB refers to high social costs (Items 2.12–2.14) without however indicating which of the different effects that it is referring to should be a matter of concern for the government. For example, it mentions both a disruption of the payment system and an interruption in bank lending to borrowers with limited access to alternative sources of funds as potential systemic effects (Item 2.13).

Consider a situation in which a small bank fails. This is unlikely to create a disruption of the entire payments system. It is, however, likely to be painful for the bank's clients. Loan clients that borrow from just this bank may find it hard to get an alternative source of funds because usually it takes time and resources to overcome the information asymmetries that make lenders look twice before they accept a new borrower. Is concern for these loan clients a proper reason to not let the bank fail? Or is such a concern only relevant if there are enough of these clients to create an economy-wide concern?

These distinctions are directly relevant to the ICB's pleas to improve resolution procedures. These pleas are extremely important. But then it would also be important to know whether improvements in resolution procedures should aim at preserving value in the interest of the bank's creditors and counterparties, whether it should aim at protecting the rest of the financial system or whether it should aim at supporting the macroeconomy. The aims are sometimes in conflict with each other. Resolving that conflict requires some notion of which elements of social costs are most important.

3.1.2 The Economics and Politics of Time (In-)Consistency

As the ICB correctly notes, commitments not to bail out banks are not credible if, *ex post*, the costs of not doing so seem altogether too large. Market participants must therefore be expected to foresee such bailouts. Such anticipations will affect the bank's refinancing opportunities and

provide the bank with a competitive advantage (Item 2.15). If size enhances bailout prospects, such anticipations will also create a strong incentive for bank growth, in particular, external growth through mergers and acquisitions.

The underlying commitment problem cannot be resolved. If a systemically important bank is in trouble, the government will want to intervene – and, given that the crisis is there, it probably should.

However, there may be ways to limit the commitment problem. Whereas the ICB mentions concerns about different kinds of creditors and counterparties in the same vein, social costs and systemic concerns from letting them participate in the consequences of bank failure are likely to differ. For example, retail deposits raise different concerns from long-term unsecured bonds. Retail deposits play a central role in the payments system. Moreover, retail depositors tend to be small and dispersed, without much of a capacity for monitoring the bank. If a third party transfers a sum of money to a depositor, his stake in the bank goes up without his even thinking about it. In contrast, unsecured bonds have nothing to do with the payments system; holders of these bonds tend to have large positions and should be able and willing to do some monitoring before they acquire these positions. Rules for government intervention *ex post* – or for bank resolution – should be clear as to how the different classes of securities are to be treated. It is desirable to establish the principle that deposits receive ultimate priority or preference in any default or resolution, and should not be relied upon to absorb losses.

From a normative perspective, this would require a proper accounting for the different social costs attached to different classes of claimants. For the two classes just given, it would seem that the case for bailing out unsecured bond holders is much weaker than the case for bailing out depositors. With depositors, systemic concerns as well as protection needs are rather more important. Making these distinctions clear *ex ante* may help in avoiding a regime in which all creditors end up being bailed out – at an exorbitant expense to the taxpayer. This is partly a legal matter – to what extent does the law permit a differential treatment of different types of unsecured creditors? – and partly a matter of politics – to what extent can unsecured bond holders, e.g. insurance companies, exert political pressure to be bailed out along with depositors? Given the *ex ante* incentive effects of a wholesale bailout regime *ex post*, and given the inefficiencies attached to some of the political-economy mechanism at work, it seems desirable to introduce the proper distinctions *ex ante* so as to have at least some hope that they will work.

The commitment problem is not limited to the problem of bankruptcy and standard debt. The commitment problem affects *all* systems of intervention that are being considered. For example, suppose that, as envisaged by the ICB, loss absorbency of debt is improved by having banks issue a certain amount of contingent convertible debt securities (co-cos). Suppose also that significant positions in these securities are being held, e.g., by insurance companies. If events

occur that induce the contractually stipulated conversion of these securities into common stock, how is the government going to deal with the systemic repercussions of the conversion? At the conversion point, there is likely to be a discontinuous drop in the stock price.² Will the government be willing to have insurance companies bear the associated losses? Or will the government prefer to preempt the conversion so as to avoid such systemic fallout? In the recent crisis, at least, many governments were afraid of systemic fallout to the point of bailing out holders of hybrid securities that, under the rules of Basel II should have absorbed losses.³ The lesson must be that *any* proposal for how to mitigate the effects of bank problems or bank failures should address the credibility of the very rules that are being proposed. On this account, the ICB Report is lacking.

The time consistency or commitment problem also affects all attempts to take account of the macroeconomy in bank regulation. Among various other initiatives, Chapter 3 of the ICB Report mentions current endeavors to develop a system of macro-prudential regulation. For any such approach, time consistency is a problem. If loan-to-value ratios are to be used, what is there to guarantee that these ratios will be lowered when real-estate markets are moving up? If countercyclical provision is to be used, what is there to guarantee that this tool will be imposed in the upswing and that, near a downswing, forbearance will not be excessive?

3.1.3 The Need for a System Perspective

In the preceding discussion, the mention of an insurance company holding unsecured bank debt indicates the need to consider the stability of the financial system as a whole, not just the stability of banks. The ICB report acknowledges as much when it refers to the possibility of banks reacting to “excessive” regulation by shifting certain operations into the “shadow banking system.” However, it does not provide any systematic account of how this issue should be handled.

² In a simple Modigliani-Miller framework, such a drop must occur if debt service to the co-cos is free from corporate income tax and equity is not. In this case, the discounted present value of the distributions that incumbents shareholders and co-co holders together can expect to receive goes down because, after conversion, returns to co-co holders are taxed. The sum of values of common shares and co-cos must reflect this decrease. The effect is amplified if co-cos are held by insurers treating them as debt securities and the conversion event forces them to sell in order to reduce the share of common equity in their portfolios.

³ Following this experience, the Basel Committee on Banking Supervision proposed rules that would ensure that hybrid securities must participate in losses before government funds are used for bailouts. (See Basel Committee on Banking Supervision, Proposal to Ensure the Loss Absorbency of Regulatory Capital at the Point of Non-viability, BCBS Discussion Paper 174, Basel 2010.) These proposals however do not address the time inconsistency problem that arises if the government is intent on bailing out the very holders of these hybrid securities. For details, see our comments to these proposals, which are attached to this document.

Two sets of issues arise. First, what are the respective roles of the different parts of the financial system in dealing with risk? How do the proposed measures for banks affect the non-bank part of the system and vice versa? Second, how serious is the problem of regulatory arbitrage by banks (or non-bank institutions), using institutions outside the domain of UK regulation?

To consider the first question, one must go beyond the list of functions of the financial systems that is given in the ICB Report. Whereas the ICB Report (Item 2.4) refers to “helping households and businesses to manage their risks and financial needs over time,” a major function of the financial system is in fact to allocate and reallocate risks so that they are shared according to the ability of people and institutions to bear them and not just according to where they arise.

An example is provided by the risks associated with long-term assets such as real estate. The economic lifetime of a house is on the order of decades. During this time, the economic environment undergoes many changes. These changes affect people’s ability and willingness to hold the house (at a given price). For example, changes in market rates of interest affect the discounted present value of services from the house and presumably, therefore, the price at which the house would trade in the market. For the owner of the house, this change is irrelevant if he does not want to sell the house anyway but just wants to live there. But even for this owner, there may be a problem that refinancing conditions change as the market rate of interest changes. This is the case if he has borrowed under an adjustable rate mortgage. If he has borrowed under a fixed-rate mortgage, his refinancing conditions do not change, but then the holder of the mortgage may have a refinancing problem. If the mortgage is held by a bank, with mainly short-term funding, this refinancing problem can be deadly, as shown by the experience of savings and loans institutions in the United States in the eighties, or the experience of conduits and SIVs holding mortgage-backed securities in the summer of 2007.⁴

By contrast, if the mortgage is held by an insurance company, which itself has liabilities with long maturities, the refinancing problem is less serious. Indeed, for an optimal allocation of the risks from interest rate changes, it is desirable to have maturity matching in the balance sheets of all financial intermediaries.⁵ In other words, the bank providing the mortgage should issue a long-term bond and the insurance company that offers lifetime annuities for old-age provision should hold the long-term bond. This arrangement protects the bank against the refinancing risk associated with short-term funding (or the interest-induced valuation risk of the mortgage) and, at the same time, it protects the insurer against the interest-induced reinvestment opportunity risk associated with short-term investments.

⁴ On the role of maturity transformation in real estate finance and the subprime crisis, see M.F. Hellwig (2009), *Systemic Risk in the Financial Sector: An Analysis of the Subprime-Mortgage Financial Crisis*, *De Economist* 157, 129–208.

⁵ For a full-fledged welfare analysis, see M.F. Hellwig, *Liquidity Provision, Banking and the Allocation of Interest Rate Risk*, *European Economic Review* 38, 1363–1389.

Proposals for statutory regulation of financial institutions ought to take account of such interdependencies. If, as seems likely, the upcoming Solvency II regulation for insurers will reduce these institutions' capacity for investing in long-term securities, then either the economy's ability to invest in long-term assets will be reduced or there will have to be more maturity transformation by the banking system, increasing this system's vulnerability to interest rate risk, or more long-term securities will have to be held by other parts of the system, final investors, hedge funds, etc.

Similarly, if banks are asked to change their financing mix, e.g., by issuing co-cos as well as common stock and debt, the question is who is going to hold those securities and what are the welfare properties of the resulting risk allocation.

As for the prospect that some activities might migrate out of the regulated sector, several possibilities must be distinguished. In the recent crisis, the most disastrous form of regulatory arbitrage through the shadow banking system involved regulated banks using conduits and SIVs to circumvent extant regulation. Assets held by conduits and SIVs were refinanced by asset-backed commercial paper, with virtually no equity (implying exorbitant leverage), and significant maturity transformation. Refinancing was made possible by the sponsoring banks providing liquidity assistance guarantees, which proved disastrous when the crisis broke in the summer of 2007. The entire operation was only possible because regulators accepted it, allowing the sponsoring banks to keep the conduits and SIVs as separate institutions off their balance sheets and not objecting to the large exposures inherent in the given guarantees.

Other forms of "shadow banking" have been much less problematic. Quite a number of hedge funds went under, without serious repercussions. In the United States, however, when Lehman Brothers went insolvent, the Primary Reserve money market mutual fund did get into trouble and "broke the buck" – and had to be bailed out. –. The problem here seems to be that money market mutual funds guaranteeing a stable "Net Asset Value" are trying to have their cake and eat it too. They want to be treated as mutual funds whose investors are entitled to the appropriate shares of returns and at the same time have investors treat their claims as debt that is similar to a bank deposit. Historically, these institutions arose in order to get around Regulation Q's prohibition of interest on demand deposits.

To us, the notion of a fund share that is treated as a form of debt appears as an oxymoron that required a government bailout in the crisis. The example shows that the so-called shadow banking system should not be left in the shadows, but should be subjected to certain transparency requirements. Moreover, to the extent that shadow banking institutions compete with regulated institutions by providing the same kinds of claims, they should also be subject to the same kind of regulation. For money market mutual funds, this would mean that either they give up their promises of stable net asset values or they ought to be subject to the same regulations as

depository institutions.

If shadow banking institutions are inherently more resilient than banks, migration of activities into the shadow banking sector should be welcome. For example, hedge funds typically have less leverage than banks – their own lenders usually see to that. Being funded with relatively more equity, they are better able to withstand adverse shocks. Allowing them to bear more risk is reasonable. To be sure, the argument would become moot if hedge funds were to start raising their leverage. Therefore, some regulation of transparency of all financial institutions is necessary.

Altogether, it should be clear that any proposal concerning banks should be based on a comprehensive view of the financial system, the role of banks in this system, and the effects of the proposal on the workings of the system, in particular with respect to the allocation of risks.

3.1.4 The role of markets

Whereas the preceding comments focused on the respective roles of banks and other types of financial institutions, it is also important to consider the functioning of markets. The ICB Report unfortunately says little about them.

In the previous section's account of the allocation of the risks of long-term assets that are associated with changes in market interest rates, several kinds of markets have implicitly been taken for granted: First, a primary bond market in which investors with long investment horizons, e.g., providers of lifetime annuities, would buy bonds issued by mortgage banks. Second, and this has not yet been discussed, a secondary market on which these bonds can be sold if their owners have a sudden change of plans and a need for cash. This market is important for those buyers of bonds, e.g., private individuals, who do not know beforehand that they actually want to hold the bonds to maturity. For these individuals, liquidity of the secondary market is important. Liquidity of the secondary market is also important for financial institutions that may themselves be subject to liquidity shocks, e.g. depository institutions or hedge funds facing a sudden outflow of funds.

In the crisis, many markets that had previously been very liquid all of a sudden became completely illiquid. This illiquidity was caused by adverse information and by the difficulties being experienced by financial institutions invested in the securities traded in these markets. Moreover, this illiquidity caused difficulties for other institutions that had counted on these markets being liquid. The liquidity of markets and the dependence of this liquidity on the health of financial institutions trading in these markets must be taken into account as a major systemic concern.

The ICB's account of the financial system and its functioning pays little attention to the role of markets and to the interplay between markets and institutions. As would become evident in the next section, this is a serious omission. The interplay between markets and institutions is a major source of contagion effects, at least equal in importance to contagion through contractual relations and information contagion.

3.1.5 Systemic risks and macro shocks

Many concerns involve "systemic risk." This term unfortunately is used to cover several different effects. Indeed, the recent crisis has led to a widening of the meaning of "systemic risk." For purposes of analysis, it is important take account of these distinctions.

Traditionally, the term referred to risks arising from the propagation of shocks inside the financial system. In the most extreme version, problems at one, possibly small, bank would have repercussions for others that might end up endangering the entire financial system.⁶

This notion of "systemic risk" is inherent in the ICB Report's reference to information contagion and to contagion through contracts (Item 2.29). There are, however, at least *four* channels by which systemic interdependence induces contagion:

- Information contagion, as in the case of the Lehman insolvency inducing reassessments of bank bailout prospects all over the world, leading to an effective breakdown of interbank markets.
- Domino effects through contractual relations, as in the case of Primary Reserve breaking the buck after Lehman Brothers went insolvent.
- Domino effects through deleveraging/fire sales depressing asset prices and inducing write-downs and possibly further deleveraging at other banks; this mechanism played a key role in pro-cyclical dynamics, in particular in the markets for asset-backed securities, from August 2007 to October 2008.
- Domino effects through the disappearance of trading infrastructures; examples are provided by the effects of the Lehman insolvency on certain markets where Lehman Brothers had served as a market maker, or by the breakdown of mechanisms for large payments in international trade in the fourth quarter of 2008.

⁶ For much of the following, see M.F. Hellwig, "Systemic Risk in the Financial Sector: An Analysis of the Subprime-Mortgage Financial Crisis" (fn. 3) and M.F. Hellwig, "Capital Regulation after the Crisis: Business as Usual?" (2010), which is attached to this document and available at, http://www.coll.mpg.de/pdf_dat/2010_31online.pdf.

In the recent crisis, the term “systemic risk” has also been used for “risks *to* the financial system” and for “risks to the economy from problems in the financial system”. These kinds of risks can materialize without any systemic interdependence. Thus, in the Swedish banking crisis of 1992, the banking system was in trouble because different banks had followed similar strategies and had similar exposures to the risks of a hike in interest rates and a downturn in real estate markets. When these risks materialized, all banks were in trouble at the same time. Moreover, the resulting credit crunch deepened the recession that had already started, making it the sharpest since the Great Depression of the thirties.

When the ICB Report points out that “banks tend to fail together” (Item 2.11), it refers to contagion effects as well as parallel exposures to the same macro risks. Both have in common that the financial system as a whole is affected, but the mechanisms are different – and so are the policies required to deal with them.

To see the point, consider the problem of reducing system exposure to macro shocks, e.g., interest rate risk, exchange rate risk, or simply the business “cycle.” If we think about such exposure as a result of different institutions taking the same kinds of positions, we will focus on the individual institution’s risk management and try to provide incentives for institutions to limit such exposures. This strategy underlies the use of risk weights in the determination of capital requirements for banks. If risk weights are appropriately chosen, banks will refrain from having excessive exposures to such shocks.

However, the matter does not end there. Given the regulatory incentives provided by risk weights in capital requirements, banks have tried to get some of the major risks off their books. Interest rate swaps, currency swaps, credit default swaps – all can be used to shift the macro risks from certain positions to third parties. In principle, such developments should be welcome. They do, however, increase the interconnectedness of the system and raise the danger of contagion effects. The effectiveness of the hedges depends on the counterparties’ ability to pay. If, following a macro shock, the counterparties’ ability to pay is impaired, the macro risk may come right back, now in the form of a counterparty credit risk whose incidence is driven by the very macro risk that was to be hedged.

An example is provided by Thailand in the crisis of 1997. In the run-up to the crisis, much lending, from foreign banks to Thai banks and from Thai banks to Thai firms, had taken place in dollar terms in order to eliminate exchange rate risks for lenders. After the devaluation of the Baht, however, Thai firms could not pay their dollar debts to Thai banks, and, with their debtors in default, Thai banks could not pay their dollar debts to foreign banks. In the recent crisis, banks that had tried to hedge the credit risk of mortgage-backed securities through credit default swaps with AIG or with monoline insurers had similar experiences. Here, the bailout of AIG prevented

the worst.

In summary, it is not enough to provide banks individually with an incentive to avoid significant exposures to macro shocks. It is also important to ensure that the measures they take in reaction to such incentives will not increase systemic risk in the form of counterparty credit risks that are correlated with the macro shocks about which one is worried. For this purpose, one must consider the relevant contagion mechanisms and see how they are affected by the policy measures one is considering.

These considerations are relevant, for example, for the assessment of capital adequacy requirements. At present, such requirements are almost exclusively discussed in terms of the individual institution and the need to preserve that institution's viability. From a systemic perspective, however, quite different issues need to be considered:

- Is it desirable to raise system interconnectedness by having requirements based on sophisticated risk weighting schemes that provide incentives for hedges whose effectiveness is not always assured?
- If risk sharing and risk transfers are to be encouraged, isn't it desirable to reduce systemic risk by making sure that each party in the network contributes additional capital buffers?
- Isn't it desirable to restrain contagion effects from deleveraging and fire sales after writedowns by limiting overall leverage? If capital is 3 % of total assets, as stipulated by Basel III, one million pounds worth of losses requires deleveraging on the order of 33 million pounds worth of assets, putting significant pressure on asset prices.

These remarks should also amplify a point made earlier, concerning the need to take a system approach. If macro risks are to be shifted out of banks' books, where will they be going to? Who will be the counterparties? What do we know about their place in the financial system and their ability to fulfill their obligations? These questions underline the need, mentioned above, to have at least some transparency requirements for all parts of the financial system. The traditional argument that hedge funds need no regulation because their investors are sophisticated enough to fend for themselves is moot when it comes to the systemic implications of such shadow banking institutions for their counterparties in different markets. If they generate negative externalities by adding to systemic risk, they will not internalize it.

3.1.6 How much exposure to macro risk should there be?

One way to protect against macro risks would of course be to avoid having them altogether. If overall investment in real estate were reduced, the economy's exposure to interest-induced

valuation risks of long-term assets would go down. However, this way of reducing macro risk exposure may cost more than it is worth. Surely, we do not want to return to living in tents! Thus, in thinking about the overall level of macro risk exposure, one has to take account of the benefits as well as the risks of the real investments that give rise to such exposures.

The tradeoff between benefits and risks depends on the risk preferences of people in the economy. As in all such matters, these preferences are not known but the market system provides a mechanism to put them into play. For this to be done properly, however, the incentives of the different participants should be properly aligned. They should recognize the risks that their decisions induce and they ought to be liable for them.

Recognition of risks is problematic if risks are hidden in systemic interdependences. In the preceding examples, hedge contracts give participants the impression that risks have been hedged – and then these risks come back at them in the form of correlated counterparty credit risks. There is therefore a danger that, in a complex network of risk shifting arrangements, the mere cognition of risks is diluted, leading to excessive risk taking by the institution in question. Such dilution of risk recognition and ensuing excessive risk taking played a major role in the run-up to the financial crisis.

Liability is diluted if government intervention in a crisis provides the bank's shareholders and creditors with protection from government funds. Liability is also diluted if management remuneration systems provide bonuses for short-term returns without taking account of the risks that were taken to achieve these returns.

Both forms of dilution provide prima facie arguments to the effect that risk taking may be inefficiently high. However, the problem of regulation must be formulated in terms of tradeoffs rather than simple prohibition. Even if we do not have the requisite information to get the tradeoffs precisely right, we need to conceptualize the problem at this level. As we are doing so, however, we must remember that, for the economy as a whole, it is macro risk and system risk that is important, not just the (perceived) risk of the individual institution.

3.1.7 When are institutions too systemic to be allowed to fail?

The preceding discussion of systemic risks and macro shocks warrants a return to the problem of government intervention in a crisis. As was discussed above, such intervention can be motivated by the desire to protect certain parties (depositors, loan clients) or by the desire to forestall systemic repercussions. Within the financial system, the following systemic concerns are relevant:

- Protecting payments systems.
- Protecting markets from downward spirals due to firesales.
- Protecting markets from breaking down for lack of market makers.
- Avoiding domino effects in contractual networks.
- Avoiding information contagion.

In principle, all of these concerns can provide sufficient reasons for government intervention *ex post*. Moreover, there is little scope for determining *ex ante* when such intervention is called for and when not. The paradigmatic example is the crisis of Long Term Capital Management (LTCM) in September 1998. LTCM was a hedge fund, i.e. outside any system of government protection or government regulation. LTCM was also relatively small; prior to the crisis, it would not have made anybody's list of systemically important institutions. However, LTCM was highly interconnected, with multiple counterparties and multiple jurisdictions for its contracts. Moreover, following the Russian default a month or so earlier, global financial markets were in a state of nervousness in which a sale of LTCM's assets could easily have led to large price declines, endangering many other institutions.

Some of the systemic concerns can be alleviated by improvements in resolution procedures for banks. In the case of LTCM, systemic concerns might have been smaller if resolution procedures for the tangled web of LTCM contracts and positions had been clear and easy to manage and if a resolution authority had had time to unwind positions slowly, without too much of an impact on counterparties and markets.

For the UK, the Banking Act of 2009 provides a much-improved set of resolution procedures. For domestically operating banks, this should alleviate systemic concerns; more precisely, it should provide an effective way to intervene so as to protect the system from contagion without diluting the liability of bank managers and shareholders.

The same cannot be said, however, for internationally operating banks. For such banks, an orderly resolution is unlikely. Under the home country principle, each subsidiary would be subjected to the host country's resolution or insolvency proceedings. As the experience with Lehman Brothers has shown, this fragmentation of proceedings can destroy the viability of even day-to-day operations from one day to the next. In a crisis situation, such a bank is therefore quite likely to be considered too systemic to fail and would be bailed out, even if this requires the use of taxpayer money.

Given the systemic importance of such banks and given the incentive distortions that are induced by expectations of being too systemic to fail, it is all the more important to have strong preventive measures *ex ante*, i.e. to have regulation and supervision to reduce the financial system's exposure to risk from such an institution.

3.2 Competition Policy Objectives

The ICB is certainly right in pointing out that retail banking in the UK has been highly concentrated for some time and has become even more concentrated as a result of the crisis. It is also right in suggesting that concentration and market power give rise to problems of their own, including a tendency to reduce innovative activities.

We wonder, however, whether the competition policy objectives should be given the same weight as the financial stability objectives. In terms of risks to the overall economy and the taxpayer, the stakes in financial stability seem rather higher than in competition issues, especially since we are concerned with a concentrated oligopolistic market structure, rather than a monopoly.

Banking is not the only industry that is highly concentrated. In other industries, a market structure of this sort is not considered so much of a problem if demand is elastic and (implicit) cartelization can be ruled out. On the household side, in retail banking, demand tends to be somewhat inelastic because households have high switching costs; on the side of borrowers, loan demand can also be inelastic if information problems make other banks reluctant to compete all out for the bank's loan clients. However, if the experience of other countries is any guide, these behavior patterns are likely to change as the internet reduces household search and switching costs. Moreover, competition for loan clients should become more intense as the increasing integration of different financial activities makes alternative offers available, or a search for margins makes incumbent oligopolists compete harder.

The ICB Report does not discuss the question of whether there is a conflict between stability concerns and competition concerns. The existence of such a conflict has been claimed by many authors and contested by many others. Empirical results providing evidence of a conflict are given in Beck et al. (2006). Boyd et al. (2009) contest these very same results on the grounds that they reflect measurement error rather than economics.⁷ Whatever the outcome of this debate will eventually be for systems with stable market structures, it seems clear that systems in transition from a constellation with weak competition to a constellation with intense competition may be at risk. Such risks arise not only from the disappearance of rents that previously allowed banks to smooth over at least some of the fluctuations in their results. They also arise from the fact that new entrants in lending must first acquire the information they need to avoid bad credit clients. If incumbent banks have such information, the first clients attracted by new entrants will be

⁷ T. Beck, A. Demirgüç-Kunt, R. Levine, Bank Competition, Concentration and Crises: First Results, *Journal of Banking and Finance*, Volume 30 (2006), 1581-1603, J. Boyd, G. De Nicolò, E. Loukoianova, Banking Crises and Crisis Dating: Theory and Evidence, IMF Working Paper WP/09/141, Washington 2009.

evidence of the so-called “winner’s curse problem” of auction theory, namely the entrant acquires these clients because the incumbents do not consider the client to be a good enough credit risk to be worth competing for. As the ICB considers measures to lower entry barriers in retail, it needs to pay attention to this problem.

Another point where competition policy and financial stability objectives meet concerns bank mergers and merger control. For the United States, substantial empirical research has shown that too-big-to-fail policies of the government are in and of themselves a major cause of concentration in banking.⁸ Banks that are expected to be bailed out by the government have significantly lower refinancing costs. With these lower refinancing costs, they can outcompete banks that do not have such bailout perspectives. For the latter banks, there is therefore a strong incentive to grow by mergers or acquisitions so as to also benefit from government guarantees.

Policies that reduce the private benefits that banks can draw from being too big to fail will automatically promote competition policy objectives as well. Additional regulations and restrictions on systemically important financial institutions are therefore warranted, not just from a financial-stability, but also from a competition policy perspective.

Competition and financial stability objective may also coincide in policies towards some derivatives markets, which seem to be highly concentrated and highly manipulable. Unfortunately, the ICB Report is not saying very much about these markets or about other wholesale and investment banking markets. Market structures and competition are likely to be quite different for different markets in this area. It would be desirable to have a more precise account of these matters, in particular a more precise account of market structures and competition in markets for credit default swaps and other derivatives.

3.3 Other Objectives

3.3.1 Lending and the Pace of Economic Recovery

We can see why lending and the pace of economic recovery are a major concern. We do not,

⁸ E. Brewer III, J. Jagtiani, How much did Big Banks Pay to Become too Big to Fail?, Working Paper, Research Department, Federal Reserve Bank of Philadelphia, December 2009, <http://www.philadelphiafed.org/research-and-data/publications/working-papers/2009/wp09-34.pdf>, shows that significant premia were paid in mergers that were deemed to bring banks above the threshold where they would be “too big to fail.” P. Gandhi, H. Lustig, Size Anomalies in US Bank Stock Returns: Your Tax Dollars at Work, National Bureau of Economic Research Working Paper No. 16553, November 2010, <http://www.nber.org/papers/w16553.pdf>, shows that, in relation to earnings, stock market valuations of large banks are too high and that more than three quarters of the overvaluation can be attributed to the implicit subsidy inherent in too-big-to-fail policies.

however, view lending per-se as an objective of its own. Lending that involves bad loans is undesirable. So is lending that puts the solvency of banks at risk. We should not be interested in any lending but in lending that provides investors with suitable returns for their investments, taking account of the risks they are taking.

The issue is perhaps best seen by comparing the experiences of Sweden and Japan in the nineties. Both countries had severe banking crises in 1992. Sweden decided to clean the banking system up right away, Japan did not. The Japanese were afraid of the immediate implications for the economy and preferred to treat their banks with forbearance. Sweden suffered from a severe credit crunch, which induced the sharpest recession they had had since the thirties. Japan did not suffer from an immediate credit crunch. Instead, Japan had a dismal decade because the unsolved problems in the banking system were dragged along and raised questions about the viability of the entire economy. In contrast, from 1995 onwards, Sweden had a recovery that was almost as sharp as the previous downturn. If one asks a Swede today whether the Swedish or the Japanese approach is to be preferred, he or she will answer unambiguously that a cleanup which permits a clear re-start with a more stable system is to be much preferred.

Bank lending as an objective of its own provides a handle to various forms of capture: Capture with a view to obtain forbearance when the bank is close to insolvency, as in the Japanese example; capture with a view to avoiding prudential regulation, as in the dire predictions of the Institute of International Finance about the dangers of capital requirements for bank lending and growth. As we discuss below, most of these predictions are fallacious or inappropriate. Here, our point is that they play on policy makers or a public who consider lending to be an end in itself.

Even a superficial look at the experience of the past decade should suggest that, if there was any lack of funds for lending, e.g. to SMEs, this lack of funds was not due to a scarcity of funds altogether, but must have been due to distortions in the allocation of funds. The past decade was remarkable for the low levels of long-term, as well as short-term, interest rates that we have experienced and for the low levels of intermediation margins. Financial developments were driven by a surfeit of funds looking for investment opportunities. This surfeit of funds kept interest rates low and intermediaries competing fiercely. Subprime lending in the United States flourished because subprime-mortgage-backed securities, MBS CDOs etc. seemed to provide investors in the United States and Europe with the returns that they were panicky for.

If lending to businesses did not keep pace with these developments, the reason is to be found at least partly in the differential treatment of market risks and credit risks in banking regulation. If a bank using the model-based approach to determining capital requirements for assets in the trading book can use credit default swaps to bring these requirements close to zero, it will prefer to allocate its equity to securities in the trading book, such as MBS or MBS CDOs rather than loans in the banking book for which they need to back 8% by equity. Similarly, a risk weight of

zero for government bonds, Greek or other, can distort the allocation of funds away from company loans.

As for the volume of bank activity overall, the low interest rates and low intermediation margins that we have had over the last decade suggest that perhaps a certain retrenchment in banking might be beneficial for all. At least one might hope that something like the waste of resources from investing funds to build houses that now stand empty and decay would be avoided.

3.3.2 Competitiveness of the UK Financial Sector and the Wider Economy

The ICB's discussion of competitiveness of the UK financial sector and the wider economy (Item 2.91, Items 4.132–4.169) suffers from the lack of an appropriate conceptual framework. To some extent, this is acknowledged in the ICB Report itself (Item 4.134), but there is no serious attempt to overcome this deficit.

For an individual firm, “competitiveness” is easily defined with reference to that firm's ability to acquire inputs and sell outputs so as to achieve earnings that provide its owners with a proper return and that provide a base for funding the investments it needs to provide for future activities. This definition however is not applicable to the financial sector as a whole, let alone the entire economy. Because the different firms in a sector are in competition with each other, the competitiveness of one firm may come at the expense of the competitiveness of another firm, in which case the assessment of sector “competitiveness” is unclear. As for the overall economy, the firms in different sectors may not be in competition with each other in output markets, but they are in competition in the markets for inputs, most importantly human capital.

Although the notion of “competitiveness” of the financial sector is undefined, it is clear that policy interventions can enhance or reduce the competitiveness of the financial sector in the sense that the interventions enhance or reduce the competitiveness of all firms in the sector at the same time. A tax on financial transactions, for instance, would reduce the competitiveness of all firms whose business would be hit by the tax. A government bailout guarantee would enhance the competitiveness of all firms that benefit from the guarantee.

As mentioned in the ICB Report (Item 4.135), however, such measures would harm the firms in other sectors in the economy. The ICB Report refers to the fact that a tax privilege or government guarantee for one sector effectively entails higher taxes for other sectors. At least as important is the observation that a tax privilege or government guarantee for one sector enables this sector to outcompete other sectors for inputs. Given this assessment, it should be clear that the “competitiveness” of the UK financial sector should not be unequivocally treated as a policy objective. The policy objective must be that firms in all sectors achieve *appropriate* levels of competitiveness – for competition in their respective output markets, as well as for competition

with each other in input markets.

For this discussion, it does not matter whether the markets in which firms compete are domestic or international. Concerns about the City as a financial center, in competition with New York or Hong Kong, Paris or Frankfurt, may seem natural if one thinks about competition as an athletic event where a country's citizens are proud to see "their" athletes win in as many disciplines as possible. The global economy, however, is not a sporting event but a system for the exchange of goods and services. In this system, the competitive successes of firms in some industries and the competitive failures of firms in other industries are two sides of the same coin as a country exports financial services and imports other products according to its comparative advantage.

In the UK, the rise of the financial sector over the past three decades was accompanied by a decline in manufacturing. This is not a coincidence. Banks are not just in competition in financial services markets. They are also in competition in markets for inputs, most importantly for scarce talent. The highly talented people that they have drawn into the financial sector have not been available to other industries. Given this observation, it is disconcerting to see the ICB Report discussing the competitive successes of the UK financial sector at great length, extolling the key role of the City as a global financial center, without ever considering the opportunity costs of these successes.

For the economy as a whole, the question is not whether banks are successful but where its resources are most usefully employed. Perhaps those sharp minds in investment banking might have become even more productive in innovative biotechnology? Perhaps those physicists working on risk models might contribute even more to the UK's economic growth if they were employed in research and development in nanotechnology firms?

Nobody knows the answer to such questions. We usually rely on the market system to guide the economy's resources to their best uses. In the absence of distortions, a firm's ability to compete successfully in both input and output markets is *prima facie* evidence that its use of the resources it acquires is economically desirable.

However, this assessment is unwarranted if market functioning is distorted by externalities and/or government taxes and subsidies. Externalities involve not just such matters as health effects from pollution but also such matters as job and income losses from the fallout of a financial crisis, or the costs of government bailout subsidies. Too-big-to-fail guarantees and the subsidies they imply distort competition in favour of the banks that benefit. These distortions impair the ability of the market system to provide for a proper allocation of resources.

The existence of such guarantees may indicate that the economy is putting too many resources into the financial sector. In that case, eliminating these distortions will improve the functioning

of the market system and enhance economic welfare, even as financial-sector activities are reduced.

These concerns must be kept in mind when the financial industry argues that certain regulations will prevent them from properly competing in global markets. Given that too-big-to-fail guarantees distort competition in favour of the financial industry, some restrictions that curb the industry's competitiveness are actually called for in the interest of the overall economy. In the seventies, environmental regulation and reductions in government support for coal and steel required painful adjustments. But overall welfare has been improved by having cleaner rivers, clearer skies and less waste of taxpayer money.

Nor is there a case for balancing the subsidies and guarantees to financial institutions that are provided in other countries. If the governments of other countries see fit to subsidize their banks, it is likely to be good for the UK to benefit from the cheapening of financial services that these countries provide and use its own resources to provide goods and services where rewards are higher. If in the past, the state guarantees of the German Landesbanken enabled, e.g., Bayerische Landesbank to outcompete others in attracting US municipal funds in search for AAA-rated institutions and in providing project financing in Singapore, this was not an occasion for other governments to match the Bavarian or German guarantees, but an occasion for US municipalities and Singapore entrepreneurs to be happy about the subsidies they received from German taxpayers.

The ICB Report addresses some of the issues raised here in an implicit manner, by proposing to identify "competitiveness" with productivity. In emphasizing productivity, the report makes clear that "competitiveness" concerns inputs as well as outputs and that the central concern must be to have inputs most fruitfully allocated across the economy. However, it fails to address the role of competition for inputs by firms in different sectors and the role of externalities, taxes, subsidies and guarantees in distorting this competition. As a result, it fails to place the discussion of "competitiveness" of the UK financial sector into a proper perspective.

3.3.3 Risks to the Government's fiscal position

We fully concur that it is important to curb the risk to the government's fiscal position. It should be clear, however, that, in a crisis, the government may not have much of a choice. If the alternative to putting in taxpayer money is a complete meltdown of the financial system, the government will – and should – provide financial support. Given this assessment, it is all the more important to prevent this risk from ever materializing.

This is not just a matter of costs to the taxpayer. As mentioned under preceding subheading, the

prospect of government support distorts competition in favour of the institutions that expect to receive such support. From the perspective of the economy as a whole, this distortion induces a waste of scarce resources. Human capital, in particular, is drawn away from other activities, into the privileged sector.

The prospect of government supports is also likely to blunt disciplining mechanisms. Creditors are less concerned about risks if they expect to be bailed out by the government. Development of risk premia for peripheral European countries over the past twenty years provides a case in point. As it became clear that these countries would join the European Monetary Union, risk premia for their government debt securities all but disappeared, presumably on the theory that, even if the Maastricht Treaty stipulated something else, this debt would end up being bailed out. As a result, debt issues of these countries ballooned, with no discipline from creditors.

In assessing risks to the government's fiscal position, it is important to appreciate that (i) some support may eventually be unavoidable and (ii) the prospect of such support may itself induce behavior that magnifies the problem. Here again, complaints about the harm that corrective measure do to the competitiveness of the industry must be weighed against concern that the competitiveness of the industry itself is partly based on support by the taxpayer.

4. Reform options

4.1 Improved Resolution Procedures

The ICB Report stresses the importance of improved resolution procedures for financial institutions, especially systemically important financial institutions (Items 2.30–2.31, 3.12–3.15, and 4.55–4.63). In this respect, the UK's Banking Act of 2009 is probably the best that is currently available.⁹ However, as mentioned above, even the UK's special resolution regime for banks involves significant systemic risks. It is unlikely that UK authorities would wish to subject a large and complex, internationally operating bank like Barclays to this regime.

Two sets of problems must be considered. First, the international dimension is completely unresolved. Under the home country principle, resolution proceedings or insolvency proceedings in a bank's home country involve the bank's foreign branches as well as the bank's headquarters. Foreign subsidiaries however are handled by the host country's authorities. If the host country applies a territorial principle, rather than the home country principle, host country authorities may impound even the assets of branches in order to protect the interests of host-country creditors. As was seen in the case of Lehman Brothers, such fragmentation of interventions can

⁹ For a comparison of the UK Regime with the German Bank Restructuring Act of 2010 and an assessment of remaining issues for both, see M.F. Hellwig, "The Problem of Bank Restructuring Remains Unsolved: A Critique of the German Bank Restructuring Law," attached to this document.

seriously impair the viability of the overall organization, especially if it destroys synergies between the different units.

Still, concerning the international dimension, there are also serious open questions regarding the treatment of contingency clauses in derivative contracts (close-out clauses, change-of-control clauses, etc.). National law may stipulate that such clauses are not to be applied when a bank is subjected to a special resolution procedure, but then the question is whether a foreign court will respect such a rule. As long as this question is unresolved, there is a great deal of legal uncertainty over how the complex network of derivative contracts of large and complex financial institutions will be handled in resolution.

Given these legal uncertainties, it is imperative that initiatives of the Financial Stability Board and the European Commission be actively pursued with a view to obtaining an international or at least EU-wide agreement that would harmonize procedural and substantive law to a degree where legal uncertainty and fragmentation of authorities in resolution are no longer sources of systemic risks.

Second, one may wonder about the practicality of even the UK's special resolution regime. For a small or medium-size bank, we have no doubt that the Bank of England would be up to the task of acting as resolution authority. For a large and complex, internationally active institution like Barclays, we have reservations about the ability of any outside institution to come in and manage the resolution process in such a way that there is no serious systemic fallout from the intervention or, more precisely, the difficulties that make an intervention necessary.

4.2 Structural Measures

The major innovation proposed by the ICB involves a structural measure. The ICB proposes a requirement that retail banking must be provided through subsidiaries and that these subsidiaries, as well as all other retail banks, should be subjected to stricter regulation than other institutions in the financial sector. Such regulations would encompass stricter capital requirements, requirements for the loss absorbency properties of debt, and restrictions on the relation between the retail bank and its parent or the parent's other subsidiaries.

This proposal raises several questions:

- Why focus on retail banking?
- What can be said about the costs and benefits of the regulatory measures that are being proposed?
- Will a ring-fencing scheme for retail banking be viable on its own terms?
- Will a ring-fencing scheme for retail banking be viable in an environment where European law permits banks from other European countries to open retail branches that are not subject to UK law?

The focus on retail banking seems to be based on the notion that retail banking is particularly important to the population at large and to the overall economy. Deposit taking and small business lending are carried out at the retail level. So are most payments and most other operations that support national and international payments systems for the non-financial sector. Protection of retail banking therefore is of paramount importance. If a crisis were to threaten large numbers of depositors and/or the viability of payments systems, the government would almost be forced to provide support to the institutions in question.

It should be clear, however, that too-big-to-fail or too-systemic-to-fail concerns are not limited to retail banking. LTCM was a hedge fund. Lehman Brothers was an investment bank. In Germany, Hypo Real Estate (HRE) was in the business of covered-bond finance for real estate and the public sector, with no deposit base worth mentioning. In the case of LTCM, interconnectedness and the vulnerability of financial markets led to the assessment that it would be unwise to enter insolvency proceedings. In the case of Lehman Brothers, the insolvency had strong systemic effects, domino effects on direct contractual partners, domino effects on institutions that had relied on Lehman Brothers serving as market maker, information contagion effects on banks worldwide, with further repercussions for stock markets worldwide. In the case of HRE, there was a fear that domino effects on unsecured bond holders would further disrupt a financial system that had already been hit by the Lehman insolvency; there also was a fear that confidence in covered bonds might break down, with further damaging systemic repercussions. All these concerns are unrelated to retail banking.

Given these observations, we are puzzled as to why the ICB is focusing on retail banks while neglecting financial-stability concerns for investment banks. The distinction appears as a convenient device to impose stricter regulation in one part of the system (retail) while avoiding to take a stand on the tradeoff between financial stability and “competitiveness” in another part (wholesale and investment banking). In the absence of any detailed discussion of systemic risks and too-big-to-fail concerns in areas other than retail banking, we find this unconvincing. The no-bailout policy that the ICB seems to be advocating outside the retail sector will not be viable or credible.

Deferring a discussion of the particular measures that the ICB proposed for retail banks to Section 4.3 below, we turn to the viability of ring-fencing for retail banks. The ICB sees subsidiarization and ring-fencing of retail as a compromise between full separation and full integration. We are not convinced that this is a compromise that will work. The reason is that subsidiaries are not really independent.

The Lehman experience provides an illustration of the problem. Lehman Brothers had routinely exploited the difference between time zones around the globe to economize on cash by having cash routinely sent from its London subsidiary to New York at the close of business in London and later from New York to Asia and from there again back to London. This kind of economizing on cash reserves is only possible if, operationally, the different subsidiaries work in

an integrated manner. Although, in principle, each subsidiary is a legally independent unit, control by the parent company that owns the subsidiary makes this legal independence appear to be somewhat academic. In the case of Lehman Brothers of course, the cash management scheme that they had directly influenced the situation of the London subsidiary in the insolvency.

For the structural measures considered by the ICB, a key issue will be what controls can be imposed on the relation between the retail subsidiaries and the parent company or the parent company's other subsidiaries. The ICB Report focuses on the segregation of capital. It is not clear to us that this is a viable notion. Here again, the ICB should take care to spell out the details of the regime it wants to propose.

For example, what is meant when Item 10 in Appendix 7 refers to a requirement of "regulatory approval for transfers of capital out of the retail bank"? In banking and bank regulation, the term "capital" refers to a form of funding, ideally common equity. In a number of places, the ICB, like many others, abuses the language by referring to capital as being "held", so, perhaps, the idea in the quoted sentence might be that something that is held can also be transferred to another unit. However, from the perspective of the issuing company, equity is not held but is simply outstanding. Equity capital can be reduced by a dividend distribution or a share repurchase but in this case, a key part of the operation concerns the outflow of cash, which subsequently is no longer available to the company in question, here the subsidiary.

Dividend distributions or share repurchases are not the only way to transfer cash from a retail subsidiary to the parent or to another subsidiary. The retail subsidiary might also provide a loan to the parent. Or it might buy assets from the parent. Such operations can be performed without changing the subsidiary's equity capital. Depending on the quality of the loans that are provided or on the quality of the assets that are being acquired, the viability of the retail subsidiary can be greatly impaired without any evident change in its equity capital. The impairment will not be apparent until later when the loans or other assets that have been acquired have to be written down and there is charge against the subsidiary's equity position.

A paradigmatic example of the problem is provided by the Maxwell insolvency of the late eighties. In the run-up to that insolvency, control over company pension funds had been abused to transfer resources out of the pension funds and into the Maxwell companies in order to delay the insolvency.

In considering the control problems that arise, it is important to see that some transfer of funds from retail subsidiaries to the parent company or other subsidiaries will take place as a matter of course. Retail banking often attracts more funds through deposit finance than can be usefully invested in retail lending. Surplus funds are naturally invested outside the retail sector. Under the umbrella of a bank holding company, it is natural for these funds to stay within the organization. Given that this is the normal course of business, a supervisor will find it extremely difficult to control whether such transfers of funds are abusive or not.

Our last question in this context concerns the viability of the proposed scheme for retail banking in the European legal environment. *De lege lata*, we do not see much of a problem. To be sure, EU law permits any French, German, or Dutch bank to enter UK financial markets, retail or wholesale, through branches, to do business under their home country regulation. However, barriers to entry in retail banking are substantial. The reasons are spelled out in the ICB Report's discussion of competition policy concerns:

- Households exhibit significant inertia.
- Retail establishments involve significant fixed and sunk costs.
- As mentioned above, entrants into retail lending need a substantial learning period in order to overcome the disadvantage that they have poorer information about prospective loan clients than their competitors.

Banks from other EU countries might consider entering UK retail markets by buying up existing UK banks. This possibility also seems rather remote. First, the winner's curse problem arises not only in lending but also in acquisitions. Second, as long as the acquired bank is legally a subsidiary of the acquirer, it is subject to UK regulation.

Except for the transition countries in Central and Eastern Europe, which had to transform or newly create their banking systems altogether, cross-border expansions of banks in Europe have tended to avoid retail banking and have focused on institutions engaged in wholesale and investment banking or other financial services. This experience is at least partly due to apprehensions about the cost of entering retail activities in unfamiliar territory.

De lege ferenda, matters may be different. If the European Commission's plans to implement maximum harmonization in bank regulation are realized, there will be no room left for the UK to deviate from Brussels rules. Given that the risks of having to bail out UK banks in a crisis are in the first place risks for the UK taxpayer, it would, however, be incongruous if the UK did not have the room it considers necessary to protect its own taxpayers from such an eventuality.

4.3 Options to increase loss-absorbing capacity

The ICB is well aware of and rightfully alarmed by the dramatic increase in leverage in the decade leading up to the crisis and more generally with the high leverage of banks (Box 1, p. 18, Item 4.8). It sets as a top priority to increase the loss absorbency of banks and considers a number of possible mechanisms for doing so. It also identifies curbing incentives for excessive risk taking, and making it easier and less costly to "sort out" banks that get into trouble as important objectives. Various proposals to increase financial stability are discussed in Chapter 4.

Our strong assessment is that by far the most critical elements to enhancing financial stability and loss absorbing capacity is a dramatic increase in the range of equity requirements for banks

and other financial institutions. Genuine, reliable, credible and cost-effective loss absorption simply *cannot* be achieved by any of the other means, and particularly by trying to use debt or hybrid securities for this purpose. Such approaches are fraught with problems and relying on them represents a false hope.

We will argue that not only is equity the best instrument for loss absorption, but the use of much more equity funding addresses many other objectives that ICB sets out to achieve. Specifically, it lowers systemic risk and decreases interconnectedness of claims in the financial system. Higher equity requirements also reduce deleveraging multipliers. Moreover, additional equity places losses from excessive risk taking with equity holders, thus reducing their inclination to undertake excessive risk and to give incentives to managers to do so.

We disagree with the assessment that equity is costly in any relevant way and that there is much of a tradeoff (at least under the assumption that through improved and genuine loss absorbency the need for costly bailouts by the government is reduced or eliminated) between much higher equity requirements and any measure of social welfare. The purported tradeoffs are simply false, because the main impact of increased equity requirements on the funding costs of banks is the removal of public subsidies currently favoring debt relative to equity. Desire to maintain subsidies currently given to debt through the tax code must be either ignored or addressed separately, but they should not lead the ICB to avoid focusing on equity for loss absorption and thereby compromise financial stability.

The only legitimate, though relatively minor, concern with dramatic reduction of leverage through the use of much more equity is related to incentives and governance in the banking sector, and it has to do with the flawed current focus on Return on Equity (ROE) in the banking industry. Such focus, which does not even concern shareholder value, might lead to excessive risk taking. Concern with the waste of resources and excessive perks is also legitimate. However, our view is that high leverage and fragility are grossly ineffective ways to handle governance problems. Such problems can be handled more easily and cheaply through other mechanisms. For example, steps can be taken to increase the liability of bank managers and possibly of bank equity.

We share the Commission's concerns about the problems associated with the use of risk weights. We therefore strongly urge the Commission to recommend sizeable increases in the ratio of equity relative to total assets (decreases in the leverage ratio) to ranges significantly above Basel III ratio of 3%.

We also discuss below the question of how high equity requirements should be, as well as implementation and adjustment concerns.

4.3.1 Risk and Fragility

It is useful to consider Figure 4.2 (p. 78 in the Interim Report), which displays an aggregate balance sheet for major UK banks in 2010. As the figure shows, 19% of the assets of UK's major banks in 2010 resided within UK (14% UK households and 5% UK corporations), and 45% resided in other countries (10% in the US, 17% in Europe and 18% in the rest of the world). The remaining 36% of the assets are classified as "other exposures."¹⁰

Turning to the liabilities side of the balance sheet, we see in Figure 4.2 that deposits represent 44% of the claims on banks' total assets (36% customer deposits and 6% deposits from banks). Debt securities represent 13% and "other liabilities" 38% of banks' assets. This leaves a mere 4% of the claims against banks' assets to "Tier 1 capital." Tier 1 capital can include hybrid securities that have some debt and some equity characteristics and preferred equity. Thus, at most, and possibly less than 4% of the claims against the banks' assets represent common equity, the true residual claim on the firm's assets.

Quite clearly, the assets of the major UK banks are risky and many are illiquid. Moreover, the risk is often "systemic" in the various senses of this term discussed above. At the same time, there is a great mismatch of maturity between the assets and their funding structure, as funding comes in the form of short term or demandable debt. This structure is highly fragile. Because the government might be compelled to spend public funds in case of a systemic crisis, it is critical indeed to find ways to increase the ability of the banks to absorb losses without requiring public support.

4.3.2 Common Equity: The best loss-absorbing security

Equity holders own residual claims to the banks' profits (the so-called "spread"). They receive dividends and own stock certificates that trade in liquid stock markets. In a well functioning stock market, when the bank creates value for its shareholders, this is reflected in its stock price. Equity provides the best possible loss absorption because, unlike the various creditors of the banks, equity holders have not been *promised* any specific payments at any specific time. Until the bank is insolvent and equity is wiped out, equity absorbs losses automatically.¹¹

Requiring significantly more equity funding across the entire financial system is the most direct and cost effective way to reducing the likelihood of a crisis, lowering the costs on the economy

¹⁰ Presumably, retail banks as envisioned under the ring-fencing proposals considered by ICB would have primarily UK-based assets. However, it is quite likely that UK-based investment banks will continue to play a role in the UK economy.

¹¹ We are abstracting here from the appropriate value measurements on the balance sheet. The most meaningful measurement of solvency is the *market* value leverage ratio, which is equal to the market value of equity (simply the market capitalization of all the shares of the bank) over the market value of the assets. (To the extent that the market value of debt or assets is not always as easily observable as the market value of equity, and since the market value of debt does not change as much as the market value of equity, a reasonable approximation of the market value the assets can be approximated by the market value of equity plus the book value of debt.)

should the system suffer an adverse shock, removing distortive “too big to fail” subsidies, and improving incentives to avoid excessive risk taking.

While the ICB realizes the benefits of more equity funding for banks, it seems reluctant to increase equity requirements too dramatically, at least as long as debt can be made *genuinely loss absorbent*. As we argue below, there is no reason to conserve on equity because it is in fact not socially costly. However, we will first examine whether it is in fact possible to make debt genuinely and credibly loss absorbent.

In a bankruptcy, debt absorbs losses according to a priority structure. Uninsured debt would normally absorb losses in an event of bankruptcy or default. Because the bankruptcy process is extremely costly and disruptive, however, it is desirable to create mechanisms for loss absorbency outside this process.

There are three ways to try to make debt absorb losses. One is through resolution or insolvency proceedings. A second, related, concept is that of “bail-in,” where regulators convert debt to equity, or impose losses on debt holders, ahead of any public support of a bank. Finally, contingent capital securities (so-called “co-cos”) are debt securities that stipulate triggers which, when hit, lead to a pre-specified conversion of the security into equity. Both “bail-inable” debt and co-cos are hybrid securities that start “life” as debt but might at some point be forced to convert to equity. The difference between them is that bail-in gives discretion to regulators to trigger the conversion and implement it, while co-cos pre-specify the triggers as part of the security at issuance. (Some variations would have a double trigger that involves both a firm specific event and a systemic, regulator-controlled condition as well.)

We will argue below that co cos and bail-inable debt cannot be expected to provide reliable loss absorbency and they may even be destabilizing in a crisis or near-crisis situation

4.3.3 Contingent Capital

Contingent capital is hybrid security comprised of subordinated debt with a stipulation that when a triggering event, typically pre-specified in terms of market price or accounting ratios, occurs, the security will convert to a particular number of shares.¹²

There are many parameters that define each particular contingent capital security, from the way the trigger event is defined, to the conversion ratio and the degree of dilution of pre existing shareholders. Since different stakeholders (holders of co cos, existing equity holders and creditors, and bank managers) are likely to have different preferences regarding conversion, a serious concern is that manipulation and instability would occur if the triggers seem to be within

¹² McDonald (2011) (see <http://www.nber.org/confer/2011/CFs11/McDonald.pdf>) discusses some design issues associated with contingent capital, and proposes a “double trigger” which requires for conversion both a bank-specific trigger and a declaration by regulators of a “systemic event.” Regulatory triggers will be discussed under “bail-in” mechanisms below.

reach, with different parties trying to affect accounting measures or stock prices so as to affect the outcome desirable to them.

The use of accounting triggers is further problematic, because accounting numbers are often based on historical values and thus may not provide the proper trigger for recapitalization near a crisis. The use of price triggers has been shown by Sundaresan and Wang to create significant instabilities and difficulties in pricing, since there may be multiple equilibria or no equilibrium, and since ex ante equilibrium is well defined only in extreme, knife-edge cases.¹³

It is important to note that contingent-capital securities, which any firm is free to issue instead of debt or equity, are rarely if ever used. If co cos can save on bankruptcy costs while receiving the tax subsidy associated with debt, we might have therefore expected them to be used more extensively in place of equity or debt. The ability of contingent capital to create genuinely loss-absorbing debt, is therefore untested and as-yet poorly understood.

Some contingent capital securities (co co's) have recently been successfully issued by banks.¹⁴ But this proves nothing of relevance. Priced attractively, just about any security can be sold. The banks that issued co cos were primarily responding the regulatory demands such as those in Switzerland, which allow 9% out of the total of 19% in capital requirements to be satisfied by co-cos.

If co-cos are to be used more extensively in place of equity to provide loss absorption, then it is important to consider which investor type would be inclined to purchase such securities. As already discussed in Section his can raise further implementation concerns, as discussed already in Section 3.1 above, the issue becomes whether the investors who would hold co cos will likely have the loss absorbing capacity at a time when they will be forced to absorb losses, or whether, as happened in the crisis and as we see now in the context of Greek debt, bailouts arise when the holders of non-equity securities are not in a good position to deal with the losses. Specifically, since co cos are primarily debt claims, it is likely that investors who buy them would be primarily looking at it as a debt instrument. These investors may not be able to absorb losses should a “systemic event” that might affect them directly, force conversion.

The ICB report suggests that high equity requirements seem radical and scary. In fact, however, banks were funded with significantly more equity in the past, at levels of 20%-30% or even more.¹⁵ Moreover, equity is already on the banks' balance sheet and it trades in well-developed and liquid market alongside equity claims on many other firms in the economy. None of this is

¹³ For more discussion, see Section 8 of ADHP (2011). The paper “On the Design of Contingent Capital with Market Trigger” by Sundaresan and Wang is available here http://www.newyorkfed.org/research/staff_reports/sr448.html .

¹⁴ Credit Suisse has done so in response to Swiss capital requirements, which allow 9% out of the required 19% of capital to be issued as contingent capital.

¹⁵ See Chart 2 in “Banking on the State,” by Allessandri and Haldane, available at <http://www.bis.org/review/r091111e.pdf>

true for contingent capital, which is new and untested. As we argue below, there is in fact no significant tradeoff between achieving greater safety for banks through increased equity requirements and the “consequential cost to society,” as the ICB seems to suggest (Item 4.24).

4.3.4 Bail-ins and resolution mechanisms

The idea of bail-in is to create a mechanism to impose losses on debtholders ahead of any public support of banks in a crisis situation. Bail-in and resolution mechanisms are conceptually similar. Both require regulators to determine when resolution or bail-in should be initiated, and both involve converting debt into equity or inflicting losses on debtholders at the discretion of regulators.

These proposals place extremely difficult and unrealistic demands on regulators, putting them in a position of having to assess the viability or solvency of complex global banks with illiquid assets and complex liabilities across the globe, and, moreover, being able, technically and politically, to pull triggers and inflict conversion to equity or losses on debtholders. It is unrealistic to expect that regulators will be able to recognize the exact time at which a resolution or bail in mechanism should begin, and be politically able to follow up with haircuts or mandatory conversion. This is particularly true if a potential crisis is looming, since pulling triggers and inflicting haircuts might have unpredictable consequences throughout the financial system.¹⁶

Better resolution mechanisms developed in the US and recently in the UK will make resolving or “bailing-in” banks that get into trouble easier. However, as mentioned above, they cannot be relied on to work well for large, complex and interconnected global banks. Moreover, there is no basis for the coordination across countries and legal systems that would be required to avoid even the worst disruptions from such proceedings. In a systemic crisis, moreover, multiple banks, and possibly the entire financial system, would be distressed. Even relatively strong banks are then likely to be suffer from debt overhang and have impaired ability to function. Such surviving banks are not likely to be in a good position to provide funds to cover the costs of resolutions. Nor is it clear that other parts of the financial system, e.g., insurance companies, will be able and willing to fill the gap. As mentioned above, therefore, prevention is the best approach. Reducing the likelihood that resolution or bail-in mechanisms are needed is of utmost importance, especially if it can be accomplished at a relatively low social cost.

4.3.5 Is equity “expensive?”

While the ICB recognizes (Item 4.23) that the equity can only be said to be “expensive” from the

¹⁶ In addition to Section 8 in “Fallacies, Irrelevant Facts and Myths in the Discussion of Capital Regulation: Why Bank Equity is Not Expensive,” which is attached and available here <http://www.gsb.stanford.edu/news/research/Admati.etal.html> these issues are discussed in our comments to the Basel Committee in response to their “Proposal to Ensure the Loss Absorbency of Regulatory Capital at the Point of Non-Viability,”

perspective of private and not social costs, it nevertheless seems to buy into the incorrect notion that there is a significant tradeoff between increasing equity requirements and some “cost to society.” In Item 4.4, which summarizes the “moderate” approach it is considering, it proposes “higher – but not too high – capital requirements, together with measures to make bank debt effectively loss-absorbing.” Since, as discussed above, there are not cost-effective and reliable measures to make debt loss absorbing, and since equity is actually extremely cost effective for this purpose, the conclusion should be, as the ICB acknowledges in Item 4.38, that equity requirements should be increased significantly more than is currently proposed.

Basel III recommends a modest increase in capital requirements. While strengthening some definitions and rules, Basel III also maintains an approach where capital requirements are stated relative to risk-weighted assets, with the key range being 4.5%-7% equity relative to risk-weighted assets. The new leverage ratio that is introduced in Basel III requires that equity be at least 3 % of total assets, allowing assets to be more than 30 times larger than equity as measured by book value.

Bankers claim that the increase in capital is very substantial or even harsh, presenting it in terms of multiples of previous requirements, and arguing that anything higher would have negative consequences. But in fact the requirements are *not* high when considered in absolute terms. A small number such as 2% (Basel II requirements), multiplied 2, 3 or even 4 times, does not result in a large number. One could not tell a crisis happened based on these ratios. Moreover, the range of 4.5-7% is given relative to risk-weighted assets, which we know can ignore systemic tail risk that should not be ignored when considering financial stability.

Clearly, the issue of whether higher requirements are appropriate depends entirely on an understanding of the social costs and benefits of doing so relative to alternatives, as well as on resolving issues around adjustments and implementation.

In the paper “Fallacies, Irrelevant Facts and Myths in the Discussion of Capital Regulation: Why Bank Equity is *Not* Expensive,” (hereafter ADHP), which is attached (and is available, with more writings, here <http://www.gsb.stanford.edu/news/research/Admati.etal.html>), we have undertaken, with coauthors Peter DeMarzo and Paul Pfleiderer, an extensive examination of the various arguments that are made to justify this view. Our position on this matter is shared by many prominent academics in finance and banking, as evidence by the letter published in the *Financial Times* on November 9, 2010, signed by twenty finance and banking economists. This letter had been submitted to the ICB before, but is again attached to this document.

The fallacies start with unfortunate and misleading language that seems to confuse the two sides of the balance sheets, implying that capital or equity requirements force banks to “set aside” or “hold in reserve” some “capital” that then sits passively and idly. But, unlike liquidity requirements that do constrain banks’ investments, capital requirements do *not* require banks to “hold” anything, only to fund relatively more of their loans or investments with relatively more

equity. The ICB, following common usage also refers to “capital” (equity) as something banks “hold.”¹⁷ Since this terminology obscures the debate and makes it less accessible to the broader public, it would be good to start using language such as “fund with equity” instead of “hold capital.” Does Apple Computer, funded with 100% equity “hold” 100% “capital?” Using the word “hold” connotes passivity and costs when in fact equity is just a way to fund loans and something that banks issue for *investors* to hold not for themselves.

The fallacies continue with statements, discussed in Sections 3.2-3.4 that defy the basic principles of the economics of funding and the well understood realities of financial markets in developed economies. Bankers claim that the Modigliani and Miller insight of 1958, which consists essentially of the basic “conservation principle” in the economics of funding, “does not apply to banks” or “does not work in reality.” The MM result does not say that capital structure does not matter, only that, if it matters, it is not due to the way risk is divided among (and indeed losses absorbed by) the various providers of funds.

Questioning this principle amounts to doubting the ability of investors in financial markets to evaluate risk. However, banks operate daily under the assumption that investors are sophisticated and can understand complex derivatives, tranches of securitized products and the various funds and instruments they create should be valued. If this is not the case, we must be quite concerned about the functioning of financial markets to allocate resources.

Moreover, it is the proper valuation of *equity* that bankers are questioning. If investors were unable to properly value equity, how is it that so many non-financial firms rely on equity markets, both public and private, to provide the bulk of their funding? Or is it just that investors cannot properly value bank equity? This is hard to believe. Equity markets sometimes get things wrong, and they may “correct” themselves. But temporary mis-valuations in equity markets do not typically have a great effect the larger economy. Even dotcom “bubble” of the late 90s and its subsequent “burst” did not have effects on the wider economy that could in any sense be compared to the effect of the financial crisis in 2007-2008.

Note that the basic principle discussed here applies equally to contingent capital or “bail-inable” debt as well. The ICB is incorrect when it states, in Item 4.41 that “contingent capital is cheaper than debt... *because it is senior.*” (Emphasis added.) Just because debt, or contingent capital, are more senior than equity, which changes the way risk is borne by the various claimholders, does *not* by itself make any mix of debt, contingent capital and equity more or less “expensive.” Different funding mixes are relatively “cheap” or “expensive” only if the *total available to all investors* changes depending on the funding mix, so that a funding mix that results in a higher total value for all funding providers is relatively “cheaper.” Such an effect can come from any number of frictions affected by the funding mix, such as the government imposing taxes differently depending funding, or providing implicit debt guarantees whose value increases the

¹⁷ The confusion was already discussed in Section 4.2 in the context of the discussion of ring fencing.

more debt is used. Additionally, the total would be different as a result of “inherent” frictions that may lead the investment decisions made by the bank to be different under different funding mixes.

There are two “policy-made” frictions that affect the private costs of bank funding. Quite unfortunately, both of them favor debt over equity, giving banks strong incentives to choose high leverage and use as little equity as regulators would allow. One is the tax code, which in most countries including UK happens to penalize equity funding relative to debt by allowing a tax deduction for interest payments but not for payments to equity holders, and to do so with no limit to the extent to which this deduction can be used. The other is the subsidized “safety net,” meant to help financial stability and prevent inefficient runs, which provides banks with underpriced explicit or implicit guarantees, thus allowing their borrowing costs to be artificially low and not reflective of the risk of their assets.

The ICB recognizes and is properly focused on finding ways to eliminate the distortions and costs associated with implicit and “too big to fail” subsidies. This is in fact the rationale of the ICB’s proper insistence that debt, in addition to equity, be made genuinely loss absorbing. The discussion in the previous subsections, however, suggests that, at least from the perspective of the liability side of the balance sheet, the best way to remove the subsidies associated with guarantees is through the use of more equity rather than making debt “loss absorbing.”

When examining other frictions that might lead the funding mix to affect the total funding costs or value of banks, most of the considerations favor equity, and not debt funding, particularly when viewed from the perspective of social costs and benefits. (See Sections 2 and 5 in ADHP (2011).) As the ICB recognizes, highly leveraged banks, particularly in the presence of guarantees, may take excessive risk. Not only does this interfere with financial stability, it may not represent socially valuable investments, as it may only benefit equity holders and managers at the possible expense of creditors and taxpayers. By placing the downside risk in the hands of the same equity holders and managers who obtain the upside of the investments, increased equity aligns better the incentive to manage risk and reduce the conflict of interest associated with the riskiness of banks’ investment between managers and equity on one side (who benefit from the upside) and creditors and the public (who disproportionately bear the downside).

Another friction that lowers the ability of highly leveraged banks from being able to provide the best social value is debt overhang, i.e., the fact that it is harder for highly indebted entities to finance new valuable investments in the presence of their overhanging debt. This might lead banks to pass up valuable loans when distressed, leading to a possible credit freeze such as the one observed during the financial crisis and which required market intervention to inject capital into the banks.

For “normal” firms these distortions or “agency problems” that high leverage creates are borne by equity holders and lead, in combination with the prospect of costs and disruptions associated

with legal bankruptcy, to most firms choosing moderate or even small level of debt funding despite the tax advantage of debt that is available to all firms. When “normal” firms take on debt, it normally comes with significant and often quite restrictive covenants meant to protect creditors from actions by equity holders that dilute the value of the debt claims. Debtholders might prohibit dividends and other equity payouts, constrain risky investments or restrict the issuance of additional, equally senior debt. This makes high leverage privately costly for most firms.

For banks none of these forces are strong, and debt is always the preferred method of funding. In part this is due to banks being already so highly leveraged and thus in a permanent state of “debt overhang.” This does *not* suggest, however, that high leverage is socially optimal for banks, only that this is the way they currently choose to fund themselves. Because the consequences of these private choice are so harmful for the broader economy by inflicting systemic risk and creating numerous distortions, it is of paramount importance that regulation aimed at financial stability takes banks to a radically different place in the capital structure space. Nothing else is as important.

In the rest of this section we discuss various issues, caveats and potential implementation concerns associated with significant increases in equity requirements.

4.3.6 Tax considerations

In the UK, as in many other countries, interest expenses paid on debt are deductible as expenses. Thus, increased equity requirements will likely increase the amount of corporate taxes banks pay. (The impact on their funding costs is less clear, however, because the overall impact of the funding mix on the total taxes paid by banks investors depends also on the system of personal taxation.¹⁸ On the personal tax level, equity is favored over debt if the capital gains tax is lower than that on ordinary income. We do not know enough about the UK tax code to determine how this effect plays out.)

A tax system that gives incentives for banks to increase their leverage, thereby increasing systemic risk, is paradoxical and distortive. It is akin to subsidizing a polluting input (high leverage) to the production of a product (funds for lending) when there is otherwise an equally cheap, or even cheaper, input (more equity) that can be used. Such a tax code should be changed so that, at least at the margin, it does not encourages increased leverage. For example, the interest tax deduction can be capped so it only applies when a bank has at least 30% or more equity; alternatively, tax incentives can be given to equity funding instead, or assessments by some regulatory agency on high leverage that inflicts risks and costs on society, can be made to reverse the distortive incentives.

The ICB must at least point out the distortion and challenge the government to provide a

¹⁸ See Merton Miller argued “Debt and Taxes,” Presidential address published in the *Journal of Finance*, 1977. This issue is discussed in any corporate finance textbook.

different set of tax incentives when it comes to bank funding. But even if nothing can be done about the tax code, it must be recognized that any additional taxes paid by banks can be used for the economy at the governments' discretion and thus do not represent social costs. It would be quite unfortunate if the ICB avoids recommending significant increase in equity requirements just so as to avoid potentially increasing the amount of taxes banks pay to the UK government. Given the difficulty of ensuring genuine loss absorbency for non-equity claims, this may unjustifiably compromise financial stability.¹⁹

4.3.7 ROE fixation and governance concerns

Bankers often lament that an increase in equity requirements will reduce their Return on Equity (ROE). On this matter, the bottom line is quite clear: ROE considerations should have no place in the ICB deliberations or in public policy, except to note that bankers' and possibly some investors' fixation with the ROE of banks points to a possible governance problem highlighted by the flawed incentives that focus on ROE creates.²⁰

The average or "required" return on equity (ROE) is determined by the market (investors) depending on the risk equity is exposed to, which is also affected by the degree of leverage. ROE does not measure shareholder value because value added can only be interpreted relative to the risk that was undertaken, not in isolation. Any firm and any manager can increase average ROE simply by increasing leverage or risk, whether shareholder value is generated or not. Comparing ROEs to measure performance is meaningless unless risk and leverage are held constant, and quite obviously ROE has *nothing to do* with social welfare.²¹

There is no sense in which anyone in the economy, including bankers, is somehow "entitled" to a particular ROE. If investors are egging bankers on to produce ROE, this may benefit them narrowly to the extent that leverage and risk increase the value of government guarantees, but certainly it is not something that legitimately should enter the policy debate. Banks must focus on creating value, enhancing the value of their investment relative to the appropriate cost of funding that should apply to those investors.

¹⁹ To the extent that it is difficult to make debt genuinely loss absorbing and thus difficult to remove the subsidy associated with implicit guarantees through the liabilities side of the balance sheet except through equity, other methods to remove the guarantees, as well as more stringent liquidity requirements would become more important.

²⁰ For a discussion of the role of such flawed incentives in the run up to the financial crisis, see UBS report to shareholders on losses in the subprime, April 2008, and M.F. Hellwig (2009), "Systemic Risk in the Financial Sector: An Analysis of the Subprime-Mortgage Financial Crisis," *De Economist* 129–208.

²¹ For more on this issue, see Section 3.3 of ADHP (2011), as well as "Rethinking How Banks Create Value," by Anat Admati, *FS Focus*, June 2011, attached and available at <http://www.gsb.stanford.edu/news/packages/PDF/%20AdmatiFocusJune.pdf> and "Attention investors: capitalism needs your help" by Robert Jenkins, *Financial Times*, June 7, 2011 available at <http://www.gsb.stanford.edu/news/packages/PDF/jenkinsletterFT060711.pdf>

Quite obviously, if bankers are focused on ROE and not on value creation, their decisions are likely to be distorted from the point of view of society. If higher equity requirements mean that bank equity investors begin to own more of the downside of the decisions made by bankers, incentives given to managers might change. But excessive risk taking might remain a concern for now, and something to watch out for.²² (Bob Diamond of Barclays recently suggested that to achieve a “target ROE,” Barclays might increase its “risk appetite.” He did not mention value creation.) Regulators to help correct distortive compensation structures in the banking industry along the lines suggested, for example, by Martin Wolf in his contribution to “The Future of Finance” <http://harr123et.files.wordpress.com/2010/07/futureoffinance5.pdf> Chapter 9.)

Jamie Dimon, the CEO of JPMorgan Chase, said on February 15, 2011, that “if regulators force banks to hold too much excess capital cushions it could lead to some banks ‘doing stupid things’.” It was not clear what “stupid things” he had in mind, but this statement must also raise flags regarding the governance of banks. If the issue is corporate waste, it might be sensible for regulators, to create additional governance structures that monitor the use of “free cash flow” by bank managers and possibly maintain the equity cushions away from the bank while subjecting bankers to the discipline of high debt commitments.²³

4.8 Risk weights

The ICB recognizes (Item 4.27) that risk weights have done a poor job of assessing how high capital requirements should be. In the period leading up to the crisis, there were strong incentives for banks to invest in highly rated securities, particularly those that were AAA-rated, because such securities had a zero risk weight and thus did not require any equity to be used in funding the investment. In other words, total leverage could be increased without violating capital requirements based on risk-weighted assets while investing in AAA securities. The same had been true of sovereign debt, including Greek debt, in recent years.

Risk weights introduce distortions in multiple ways (i) because they allow the use of internal models that often ignore tail risk, they can hide concentrated tail risks and thus lead to increased systemic risk; (ii) the use of banks’ internal models to assess the risk weights allows

²² On this topic, see also “Bank Executive Compensation And Capital Requirements Reform,” by Sanjai Bhagat and Brian Bolton (2010), available at <http://leeds-faculty.colorado.edu/bhagat/BankComp-Capital-Jan2011.pdf> and “Regulating Bankers’ pay,” by Lucian Bebchuk and Holger Spamann, Georgetown Law Journal, 2010, 247-287, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1410072

²³ For a proposal along these lines see A. R. Admati and P. Pfleiderer, “Increased Liability Equity: A Proposal to Improve Capital Regulation of Large Financial Institutions,” which is attached. This paper is currently being revised with Peter Conti-Brown as a law review piece entitled “Liability Holding Companies.” See also the discussion of governance considerations in Section 5.2 of ADHP (2011).

manipulation of the risk weights with the purpose of evading capital regulation. (iii) risk weights can distort the incentives of banks away from traditional lending and encourage investments in trading assets with low risk weight. This means that the way capital regulation is implemented itself creates lending distortions.²⁴

The above is a serious concern. When banks describe their response to increased capital regulation, it is often clear that their response might include lending contractions precisely because this is easier than other responses they might take. This only highlights the fact that responding to the incentives provided by the risk weighting system undermines the objectives of capital regulation. It suggests that it is critical to make more use of the crude leverage ratio, and specify requirements in terms of this ratio that are significantly higher than the 3% allowed in Basel.

While recognizing the problems with risk weights, the ICB interim report only discusses increased capital requirements in the context of ratios using risk-weighted assets. We urge the ICB to consider significant increases in the leverage ratio (relative to total assets) significantly relative to the Basel III minimum of 3%. The issue of “numbers” will be taken up next.

4.3.9 How high should Equity Requirements be?

The interim report of the ICB cites a number of papers, primarily BIS (2010) and Miles et al (2011), which provide estimates for the costs and benefits of specific capital ratios. These estimates are based on many assumptions both in constructing an economic model for the impact of different requirements, and in the empirical models that produce the estimates. It is critical to note here that none of the studies take a full analysis of how equity requirements affect various elements of *systemic risk*, discussed in Section 3.1 above, as well as on incentives to take excessive risk or the impact of debt overhang on an ongoing basis (i.e., not just in the context of “crisis prevention”).

While we have not undertaken a full evaluation of the BIS (2010) paper, there are many reasons to doubt the analysis it presents provides meaningful estimates that should guide prudent policy. For example, the study assumes that the required return on equity, as well as on debt securities do not change (and are in fact equal to historical averages) as capital requirements change. This is in direct contradiction to basic corporate finance, and is among the fallacies we discuss in Section 3 of ADHP. Obviously, it leads to an overstatement of the costs of increased equity requirements. Some of the papers simply assume that as a result of increased capital requirements, banks increase lending spreads simply to increase their profits.²⁵ This raises obvious questions as to the basic economic model behind the setting of spreads. For example, if

²⁴ For more discussion of this see M. F. Hellwig, “Capital Regulation after the Crisis: Business as Usual?” which is mentioned in fn 6 and attached.

²⁵ See, e.g., S. Roger and J. Vlcek “Macroeconomic Costs of Higher Bank Capital and Liquidity Requirements,” available (updated) at <http://www.imf.org/external/pubs/ft/wp/2011/wp11103.pdf> .

it is possible for banks to increase lending spreads after capital requirements are increased, why can't they choose the higher spreads with the previous and lower capital requirements, as this would also increase their profits then?

One of the studies used to estimate the costs of additional capital requirements in BIS (2010), reported in Angelini et al (2011), is based on a model by Van den Heuvel (2008), which itself is also responsible for some of the estimates in BIS (2010, Annex 6).²⁶ This model assumes that banks only fund themselves with deposits and equity, and that any increase in capital requirement must come out of valuable deposits thus necessarily crowding deposits out. Estimation based on this model led to the conclusion in Van den Heuvel (2008), that Basel II requirements were too high. In light of the crisis that followed shortly after the publication of this paper, the model and any analysis on its basis are highly suspect.

Miles et al (2011) is careful to include a “MM adjustment” and to distinguish between private and social costs, but inevitably this analysis is also based on a number of economic and statistical assumptions. Reduced distortions in banks’ decisions and systemic risk considerations are not specifically modeled or included. Miles et al conclude that (i) requirements in the range of 16%-20% equity (relative to risk weighted assets) are appropriate and (ii) *it is significantly more costly to have requirements that are too low than to have requirements that are “too high.”*

We cannot offer tables and figures with precise numbers, because we do not have a model for the social costs of increased equity requirements starting from current levels and going well beyond any level currently considered. We would consider even levels above 30% equity to total assets which, incidentally, is the average fraction of equity to total assets for Real Estate Investment Trusts in the US. Admittedly, this is a rough analogy. However, in light of the above, it is quite clear that the Basel III numbers, in particular, as well as the extra SIFI “surcharges” recently negotiated by the G20 representatives, are *not* based on any more solid scientific analysis. Quite the contrary, the models on which they are based are biased so as to exaggerate the costs of equity requirements.

Ideally, capital regulation should be managed dynamically and pegged to a variety of measures of systemic and individual risk. Requirements should be set high, setting a range (with a “conservation buffer” notion) that lies at least at the levels suggested by Miles et al, and enhanced by a range of total leverage requirements (based on un-weighted assets). Properly enforced, and also complemented with better resolution mechanisms, such requirements will greatly enhance financial stability.

²⁶ The paper by Angelini et al is entitled “Basel III: Long-Term Impact on Economic Performance and Fluctuations,” available here http://www.newyorkfed.org/research/staff_reports/sr485.pdf . The paper by Van Den Heuvel, S. is “The Welfare Cost of Bank Capital Requirements,” *Journal of Monetary Economics*, 2007, pp. 298-320. See the discussion at the end of Section 3.2 in ADHP (2011).

Adjustment issues; is equity scarce?

A question often asked in the context of proposals to dramatically increase equity requirements for banks is where would all this “new” equity come from. The concern is misplaced. Fundamentally, a change to the capital structure of banks, even a radical change, does not by itself interfere with any of the overall productive activities in the economy and does not involve any radical change in the way risks in the economy are held and shared. All that is involved is a certain “reshuffling” of financial claims with the intention to remove distortions and place risks where they should belong for the purpose of aligning incentives, removing distortions and eventually allowing a less distorted market system to determine the allocation of resources.

Bank stocks, as well as all other financial claims are held, directly or indirectly, by end-investors. The risk associated with these claims is borne by investors collectively (and, in the presence of implicit government guarantees, possibly also by others in the economy who do not actually hold any claims). Increased equity requirements for financial entities is intended to place as much of the downside risk that these entities take on equity investors who benefit from the upside. When downside risk are shifted to others, severe distortions arise and the allocation of scarce resources the economy, including human resources, is adversely affected.

As discussed in Sections 3.2 and Section 7 of ADHP (2011), increasing equity requirements for banks need not interfere with any productive activities in the economy, including those undertaken by banks. While banks at the moment have little equity, they issue various debt claims that do not generate value, i.e., which they exchange for exactly the economic value of the security being sold. (In other words, the debt issuance itself is “zero net present value.”) Instead of this debt security, banks can fund with equity without changing any of their value-creating activities.

Adjustments to much higher equity requirements should not be harmful if handled properly by regulators. This is particularly so if requirements remain stated only in terms of risk-weighted assets, which create distortions in the way banks respond to changes in capital requirements, potentially harming the economy.

It is possible that, given the current funding structure of the banks, issuing equity instead of debt would have to be done at some discount, or is something that banks would not willingly do. But the main reason for this is the already high leverage of the bank and the fact that additional equity would have to assume responsibility for pre existing debt commitments. This is a version of the “debt overhang” problem and is, by itself, not a reason to refrain from additional capital requirements.

In addition, to the extent that increasing equity requirements may remove some of the subsidies currently enjoyed by bank equity holders (in ways that have not been anticipated), increasing equity requirements may cause bank stock prices to decline. However, such a decline will only reflect the fact that current distortions are being corrected, and this should not be a concern for

policy makers. As discussed below, earnings retentions are the easiest way to affect transition to lower leverage levels. Again, if they lead bank stock prices to decline, this is because risk that is currently borne by taxpayers is rightly shifted to bank equity holders. But the concern that bank equity is scarce or that markets will have a hard time adjusting to higher capital requirements is simply misplaced.

The easiest way to implement the transition to higher equity requirements is to ban payments to equity in the form of dividends and share buybacks until banks are better capitalized. Simple retention of equity (as long as cash is not wasted on perks), or the use of the earnings to repay debt and thus reduce leverage, would build up equity buffers without needing to raise much in the form of new equity.

Regulators may also consider mandating specific amounts of equity issuance, possibly in the form of rights offerings, to help banks raise additional equity. If done in response to regulation, this will not carry the negative “stigma” for particular banks that discretionary earnings retention or equity issuance can sometimes carry. (On this, see Section 5.4 in ADHP (2011).) Regulators can expect banks to be unhappy with such demands, but this is due to their reluctance to give up subsidies and should again not be a concern to policy makers. Cash paid out to equity is cash not available to pay back creditors if the bank is in distress, and is also unavailable for lending. Until they are significantly better capitalized, is in the public interest that banks use their earnings to lower their indebtedness or make productive uses of them, rather than pay them out to equity holders.²⁷

The papers behind Basel (2010) make, in one way or another, exogenous and unrealistic assumptions that equity is costly, which we dispute in ADHP (2011), at least starting from the current degree of leverage. Moreover, in estimating the benefits of increased equity requirements, they assume that the required return on equity does not change when capital requirements are increased, and do not consider improvements in the quality of lending decisions of banks due, for example, to fewer incentives to make excessively risky loans (or investments). Admittedly, this is very difficult to estimate but it seems quite clear that even aside from estimation issues, the costs of increased capital regulation are likely to be overestimated while the benefits are likely to be under estimated in this analysis. Numbers produced on the basis of flawed models should not guide policy more than crude recommendations based on more solid reasoning.

²⁷ See “Banks can raise more capital” by David Miles, *Wall Street Journal*, July 1, 2011, available at http://online.wsj.com/article/SB10001424052702304314404576411371850459168.html?mod=googlenews_wsj Also relevant are commentary pieces advocating against allowing banks to pay dividends, including “Force banks to put America’s needs first,” by Anat Admati, *Financial Times*, January 20, 2011, attached and available here <http://www.gsb.stanford.edu/news/research/Admati.dividendoped.html> and “Only recapitalized banks should pay dividends,” by Anat Admati and 15 others, *Financial Times*, February 15, 2011, attached and available here <http://www.gsb.stanford.edu/news/docs/isaacletter.pdf>