

SPECIAL INTEREST SERIES



Europe Economics

Report prepared for the City of London Corporation
by Europe Economics
Published May 2010

The Future of Banking Regulation



City of London Economic Development
PO Box 270, Guildhall, London, EC2P 2EJ
www.cityoflondon.gov.uk/economicresearch

**Comments on the Future of Banking
Regulation**

A Research Report by Europe Economics

**Europe Economics
Chancery House
53-64 Chancery Lane
London WC2A 1QU
Tel: (+44) (0) 20 7831 4717
Fax: (+44) (0) 20 7831 4515
www.europe-economics.com**

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
High-Level Issues	1
Summary of Issues.....	3
Views and Recommendations	3
1 INTRODUCTION.....	7
The Basel Proposals	7
Summary of Proposals	9
Summary of Issues.....	11
The Wider Regulatory Map.....	13
2 ALTERNATE VISIONS OF THE FUTURE OF BANKING REGULATION.....	14
A Taxonomy of Crises	17
The Goal of Prudential Regulation	21
Rules vs Discretion	23
The Rest of this Report	27
3 LIQUIDITY STANDARD	28
Context	28
Specific Issues	32
Remark	34
4 QUANTITY AND QUALITY OF CAPITAL.....	35
The Importance of the Number	35
Specific Issues	37
Counterparty Credit Risk.....	39
Regulatory Capital Calculations vs Accounting Disclosure Calculations	39
Remarks	41
5 LEVERAGE RATIO	43
Context	43
Significance of Leverage in Past Crises.....	44
Specific Issues	45
Netting	47
Further Remarks	47
6 COUNTERCYCLICAL BUFFERS	49
Context	49
Specific Issues	52
Industry view	55
Further Remarks	56

7	TRANSITIONAL ISSUES.....	57
8	CONCLUSIONS AND RECOMMENDATIONS.....	59
	APPENDIX 1: UNDERSTANDING THE FINANCIAL CRISIS.....	62
	Drivers of Volatility.....	62
	Stylised Characterisation of the Crisis: Rationality-Based Account.....	64
	Alternative Stylised Characterisation of the Financial Crisis: Irrationality-Based Account.....	68

EXECUTIVE SUMMARY

- 1 This report, prepared for the City of London, offers some comments on the future of banking in the context of the proposals of the Basel Committee from December 2009 in respect of amended liquidity and capital requirements. The report is intended as an input to the City's deliberations concerning its own response to the Basel Committee's proposals. It is an independent report intended to stimulate debate, and does not constitute a statement of the Corporation's views or those of City stakeholders who were interviewed during the preparation for the report.
- 2 We focus upon four key elements in the Proposals:
 - (a) Raising the quality, consistency and transparency of the capital base.
 - (b) Adopting a risk-based, harmonised leverage ratio.
 - (c) Implementing a short-term (Liquidity Coverage Ratio) and long-term (Net Stable Funding Ratio) liquidity standard.
 - (d) Measures to promote the build up of capital buffers in good times that can be drawn upon in periods of stress.

High-Level Issues

- 3 The Basel proposals are just one part of a much broader set of changes to regulation affecting the financial sector in the UK. The sheer scale of regulatory change might arguably be an appropriate reflection of the scale of the crisis. But one consequence is that many different forms of measures have arisen reflecting different theories about what went wrong and how best to address it, and these measures are often overlapping. In many cases this provides two or even more different regulatory requirements for addressing the same underlying risk concept, with the danger that some of the measures are superfluous or unnecessary — obviously, superfluous and unnecessary regulations create costs of compliance and other negative impacts.
- 4 Even within just the Basel proposals under consideration here, there is a clear case of tension between diagnoses of the crisis and which measures are best to address it. We explore two classes of explanation of the crisis. We argue that it is simply an intellectual error to abandon modern finance theory, and to believe that its insights will systematically mislead us in formulating regulation, with the conclusion that therefore the right route forward is simply far bigger buffers of all sorts to protect us — much more capital, much more liquidity, much greater restrictions on risk-taking — without having any hope of economic analysis providing us with precise insights into how much of these different buffers are really required. In addition, some of these buffers may be overlapping to already-existing measures in the UK which could result in negative effects to economic growth (as more capital is tied up, this leads to less deployment for lending).
- 5 In our view the fundamental ambition of prudential regulation of the banking sector cannot be that such restrictions are placed upon banks — such high capital ratios; such

extensive liquidity standards; such close risk-taking restriction — that no bank will ever fail. Companies going bust is not capitalism failing; it is capitalism working.

- 6 We argue that the two key issues are resolution regimes (including mechanisms to enable bondholders to make losses) and measures to ensure liquidity. We contend that the form (as opposed to the *cause*) of the crisis was actually a liquidity crisis combined with a crisis of concern over future profitability rather than, as often believed, a crisis purely associated with inadequate capital caused by past losses. Increased capital requirements are, we think, very much a secondary consideration, which might serve at best to extend the period before future crises become acute, unless the other, more fundamental, issues (resolution and liquidity) are addressed adequately.
- 7 One implication of the crisis might concern the inevitable limitation of rules. The Basel II framework simply did not envisage the kind of crisis that emerged in 2007-8. Some regulatory commentators believe that the lesson is that the rules need to be changed to address such a scenario and the factors leading up to it. But this idea runs the risk of simply developing regulatory tools and tactics to address the last crisis that may be irrelevant in addressing the next.
- 8 A different lesson might be that for any rule there will be unforeseen contingencies — events that are not anticipated in advance — and that therefore over-reliance upon any rule can be a source of systemic weakness. Instead, any system of regulation must offer more scope for the exercise of judgement. We argue that this means that the reform of institutional arrangements is central to the appropriate response to these events, rather than simply a reform of rules. In particular, we argue that prudential regulation is not properly distinct from the lender of last resort function of the central bank, and that central banks are the proper institutions for the exercise of discretion. Rules can only be a guide for central banks in their exercise of discretion and for institutions as to the central bank's likely thinking.

Summary of Issues

9 Table 1 summarises what we see as the main detailed issues for each of the proposals.

Table 1: Summary of Issues Arising from the Basel Proposals

Proposed Measure	Issues
Implementing a Global Liquidity Standard	Definition of liquid assets Scope of application Branch liquidity and currency Monitoring Tools
Improving the Quantity and Quality of Capital	Definitional Issues (including treatment of minority interests, unrealised gains, contingent capital) and Loss Absorption Striking the balance between: - A tendency to over-raise capital given the central roles of confidence and trust in the financial sector and - The risk that banks face limited incentives to de-lever given government guarantees. Regulatory Capital Calculations vs Accounting Disclosure Calculations
Introducing a Harmonised Leverage Ratio	Role for leverage ratio: Backstop vs. Parallel measure Scope: Pillar 1 or Pillar 2? Calculation and Uncertainties
Requiring the Build-up of Capital Buffers	Effectiveness of counter cycle capital controls Implications for capital adequacy calculations Scope: Pillar 1 or Pillar 2? Development of a provisioning approach Determination of the timing and range of the cycles

Views and Recommendations

10 The specific impacts of the Basel Proposals will depend very much upon the specific numbers chosen — particularly in respect of capital. Our overall view is as follows.

11 **The most important measures to introduce are those relating to adequate resolution regimes, to liquidity, and to the structure of prudential supervision.** Thinking concerning how to improve resolution regimes is still very much in development. The Proposals correctly identify that there need to be changes to liquidity standards (though the detailed ideas still need material refinement), but they can only work if they are properly paired with central bank supervisory arrangements. Central banks are the correct institutions to have prudential oversight of systemically significant institutions that

they might be called upon to provide with last resort lending.¹ Without the proper pairing of prudential oversight and the lender of last resort function, other measures to promote liquidity are always going to be of limited relevance.

- 12 **There is a case for changing some aspects of capital requirements — in particular for increasing the focus upon and significance and levels of common equity and reserves.** But we caution that the values chosen for overall Tier 1 capital should not be conceived of as devices for preventing all bank “failures” — which we define as situations in which bondholders make losses. Fractional reserve banking is an intrinsically risky activity, and the disciplines imposed by risk-taking bondholders are very important to the efficient functioning of companies — e.g. through the disciplining of remuneration schemes encouraging excessive risk-taking. No bank should ever be considered too big to fail, too connected to fail, too complex to fail, and it is hubris to imagine that regulators can, efficiently and effectively, regulate banks in ways that would properly mirror the disciplines imposed by the Market. Disorderly failure would, of course, undermine trust, but this point serves only to emphasize, again, the importance of improving resolution processes.
- 13 Again, **the case for considerably increasing overall regulatory capital as a percentage of risk-weighted assets**, perhaps even doubling the amount, **seems to us ill-founded.** Tier 2 capital appears to have the function of serving as a buffer to protect depositors in the event of a bank’s failing. But the proper way to deliver such a buffer would be to make depositors preferred creditors. In practice, no-one believes that any depositor will be allowed to lose material sums of money ahead of bondholders. Deposit insurance schemes exist for just this reason. But, since the taxpayer stands behind such schemes, insofar as any bondholders actually rank ahead of depositors, the effect of deposit insurance schemes versus a preferred creditors regime for depositors is simply to provide a government subsidy for that set of high-ranking bondholders. It would be better to acknowledge this reality and simply to make depositors into preferred creditors, at the same time abolishing the “gone concern” tier of regulatory capital altogether. (Obviously this would entail an extended transition period).
- 14 **In choosing its numbers, we believe that the Basel Committee should pay close attention to the possibility that many banks will be tending to over-provide capital in the short-term.** We would urge the committee against “surfing the wave” of market-driven capital increases, and instead restrict increases to those that would be valuable over the medium-term and relevant to the next crisis, not the last. It should also reflect the fact that, even under existing frameworks, there have been significant changes already introduced.

¹ It is important to note that our view is that banks should be subject to prudential supervision from whatever is their lender of last resort, rather than in whatever jurisdiction they are trading.

- 15 **We believe that counter-cyclical buffers have a potential role.** They could serve as instruments of monetary policy, exercised by central banks.² In addition, it could be of value to have a Pillar 1 set of modest buffers, established on a coarse-grained basis indicating different risks.³
- 16 The standard industry view is that in the future it will be important that there is greater international coordination of regulation, harmonisation of rules, and consistency of implementation and interpretation. Indeed, the industry points out that Basel II had not been consistently implemented globally at the time of the crisis and suggests that uniform application may have resulted in reduced impact of the crisis. **We, in contrast, are unconvinced that there is a case yet made for pursuing significant further deepening of international coordination of banking regulation.** Indeed, we believe it quite likely that greater exercise of national discretion (even if only in the form of using that discretion already envisaged under Basel II and employed fully by only a few countries such as Spain and Canada) is the appropriate path forwards. (Indeed, the very fact that certain of the provisions here reflect lessons learned from the differences between regulation in Spain, Canada and elsewhere, illustrates some of the value of regulatory competition.)
- 17 **We believe that UK banks will be likely to respond to these measures both by increasing their capital holdings** (in the short-term mainly by recycling profits, reducing dividends, but from 2011 onwards opportunities for rights issues may improve) **and by reducing their risk-weighted assets (which will include a significant component of reduction in loans).** If increases in capital requirements on the scale envisaged by some commentators were enacted, that would clearly have a serious short-term impact on loans in the UK, and could imperil robust economic recovery. If increases on this scale are really envisaged, there should be an extended period of transition. Calibration of the combined proposals will be needed to derive the correct sequencing and timing for the enhancements to avoid serious impact on lending and serious adverse impact to a robust economic recovery. A 2012 implementation schedule could become plausible only if increases were modest (in particular if the main increases were restricted to a greater role for common equity and reserves in Tier 1) — that capital buffer rises were set for the medium term, that Pillar 2 is employed to address nearer-term issues, and that discretion is granted to national authorities to treat temporary under-shooting of requirements with forbearance.
- 18 **Over the longer term, we believe that increased capital requirements will reduce the riskiness of the sector, (appropriately) reducing returns on equity.** But improved resolution regimes and improved liquidity requirements might, if effective, increase the

² In a number of jurisdictions, including the UK, buffers are already in operation.

³ For example, one might envisage a set of warning lights — green would mean the buffer were set at its lowest level (perhaps a quarter to a half a percent of RWA), amber (perhaps half to one per cent) and red (perhaps one to three per cent) would involve jumps to higher levels, and dark red would mean the buffer were set to zero (since buffers are there to prevent a crisis, and are unhelpful once a crisis has actually begun).

ability of governments in the next crisis to allow more institutions to fail. This would (appropriately) increase the cost of capital in the sector, since the implicit government bailout guarantee would be reduced. This latter risk-increasing effect would be likely to dominate the effect of increased capital requirements.

- 19 **We believe that London's competitive position in the banking sector is currently under threat. But this threat does not mainly come from the Basel proposals.** The Basel proposals neither solve that problem nor materially add to it.

1 INTRODUCTION

- 1.1 This report, prepared for the City of London, offers some comments on the future of banking in the context of the proposals of the Basel Committee from December 2009 in respect of amended liquidity and capital requirements.
- 1.2 We have been asked to provide our own view and assessment, in the context of what is practical and achievable given recent events, political trends, and the current state of play in regulatory thinking.
- 1.3 This document is thus neither the Corporation of London's submission, nor its own view on the issues raised, nor the views of City stakeholders.
- 1.4 It should be noted that many of the Basel Committee's proposals involve no precise numbers. Both quantitative and indeed qualitative impacts will depend very much on the precise numbers chosen for almost all the key parameters under consideration.
- 1.5 In this Introductory section, we shall now set out what the Basel proposals are and what we see as the key issues the detailed proposals raise, before turning to some high-level considerations in Section 2.

The Basel Proposals

Objective

- 1.6 The Basel Committee's proposals (often hereafter referred to as "the Proposals") aim to strengthen global capital and liquidity regulations with the goal of promoting a more resilient banking sector. The objective of the Basel Committee's reform package is to:
 - (a) Improve the banking sector's ability to absorb shocks arising from financial and economic stress, thus reducing the risk of spillover from the financial sector to the real economy.
 - (b) Improve risk management and governance as well as strengthen banks' transparency and disclosures.

Key Proposals

- 1.7 We focus upon five key elements in the Proposals:
 - (a) Raising the quality, consistency and transparency of the capital base.
 - (b) Adopting a risk-based, harmonised leverage ratio.
 - (c) Implementing a short-term (Liquidity Coverage Ratio) and long-term (Net Stable Funding Ratio) liquidity standard.

- (d) Measures to promote the build up of capital buffers in good times that can be drawn upon in periods of stress.
- (e) Strengthening the capital requirements for counterparty credit risk exposures arising from derivatives, repos, and securities financing activities.

Summary of Proposals

1.8 Table 1.1 summarises the main changes and specific rationales for each of the proposals.

Table 1.1: Summary of the Basel Proposals

Proposed Measure	Change from Basel II	Specific Rationale
Implementing a Global Liquidity Standard	<p>Introduction of <u>Liquidity Coverage Ratio</u> (30 day horizon)</p> <p>Liquid Asset Definition: Cash, central bank reserves and government securities.</p> <p>Corporate and covered bonds (issued by non financial institutions) may also be eligible, subject to haircuts.</p> <p>Introduction of <u>Net Stable Funding Ratio</u> (1 year horizon)</p> <p>Numerator: capital, preferred stock with maturity > 12 months, liabilities with effective maturity > 12 months and a portion of deposits (including TDs) which have a maturity < 12 months, however which would be expected to remain with the bank.</p> <p>Denominator: required funding based on assets scaled by degree of stability, with a 0% weighting applied to cash through 100% for other assets. 85% weighting would apply to retail loans with a maturity < 12 months. The unused portion of OBS exposures such as committed credit/liquidity facilities would attract a 10%+ weighting.</p>	<p>That a bank maintains an adequate level of unencumbered, high quality assets that can be converted into cash to meet its liquidity needs for a 30-day time horizon under an acute liquidity stress scenario.</p> <p>To promote more medium and long-term funding of the assets and activities of banking organisations to address liquidity mismatches.</p>
Improving the Quantity and Quality of Capital	<p>Predominant part of Tier 1 common equity</p> <p>Deductions from capital (goodwill, minority interests, pension and deferred tax assets; and the shortfall of provisions to expected losses for IRB institutions) harmonized and applied to common equity</p> <p>Other than common equity Tier 1 instruments will have to absorb losses on going-concern basis</p> <p>Use of hybrid capital in Tier 1 would be phased out</p> <p>Simplification of Tier 2 and abolition of Tier 3</p> <p>All components of capital will need to be disclosed</p>	<p>To improve the quality, consistency, and transparency of the capital base of large, internationally active banks to ensure they are in a better position to absorb losses.</p> <p>The aim is to strengthen the component of the Tier 1 capital base which is fully available to absorb losses on a going concern basis.</p>

Introduction

Proposed Measure	Change from Basel II	Specific Rationale
Introducing a Harmonised Leverage Ratio	<p>Introduction of a volume-based (non-risk-adjusted) ratio adjusted for accounting standards Initially intended under Pillar 2, then gradually Pillar 1</p> <p>The numerator of the leverage ratio (capital) would consist only of high-quality capital that is generally consistent with the revised definition of Tier 1 capital set out in the Proposal.</p> <p>The denominator of the leverage ratio (total exposures) would be determined in accordance with applicable accounting rules and include all quality liquid assets; Repo-style transactions (netting not allowed); any retained position of funded securitizations that meet the applicable accounting criteria for de-recognition of the securitized assets; Securitizations that do not achieve accounting de-recognition; the underlying securitized assets would be fully included; Synthetic securitizations would not be recognized for leverage ratio purposes; Derivative exposures (netting not allowed; credit derivatives notional amounts) and Off-balance sheet exposures.</p>	To reduce build up of excessive leverage in the banking sector.
Requiring the Build-up of Capital Buffers	<p>Introduction of Downturn Probability of Default (similar to existing requirement of downturn Loss Given Default) in capital calculations.</p> <p>Change of accounting standards towards expected loss approach to capture actual losses more transparently rather than "incurred loss" approach.</p> <p>Introduction of capital distribution constraints when capital levels fall within specified range above minimum requirements.</p>	To address procyclicality, create additional shock absorbers, promote forward-looking provisioning, conserve capital to be available during stress periods and protect banking sector from excess credit growth.

Introduction

Proposed Measure	Change from Basel II	Specific Rationale
Strengthening Counterparty Risk Coverage	<p>A requirement that banks determine capital charges for CCR using stressed inputs;</p> <p>A capital charge for mark-to-market losses associated with a deterioration in the creditworthiness of a counterparty;</p> <p>Stronger collateral and margin requirements for banks with large illiquid derivatives exposures;</p> <p>Enhanced counterparty credit risk management requirements;</p> <p>Increased risk-weights for exposures to financial institutions relative to non-financial entities;</p> <p>A zero percent risk weight for counterparty credit exposures to qualified central counterparties and exchanges.</p>	<p>Strengthening counterparty credit risk arising from derivatives, repo and securities financing activities by raising capital buffers backing these exposures.</p> <p>It aims to reduce the risk that shocks are transmitted from one institution to the next through the derivatives and financing channel and increase the incentives to move OTC derivative exposures to central counterparties and exchanges.</p>

Summary of Issues

1.9

Introduction

Table 1.2 summarises what we see as the main detailed issues for each of the proposals (we consider various high-level issues in this chapter and in remarks in each of the particular sections).

Table 1.2: Summary of Issues Arising from the Basel Proposals

Proposed Measure	Issues
Implementing a Global Liquidity Standard	Definition of liquid assets Scope of application Branch liquidity and currency Monitoring Tools
Improving the Quantity and Quality of Capital	Definitional Issues (including treatment of minority interests, unrealised gains, contingent capital) and Loss Absorption Striking the balance between: - A tendency to over-raise capital given the central roles of confidence and trust in financial sector and - The risk that banks face limited incentives to de-lever given government guarantees. Regulatory Capital Calculations vs Accounting Disclosure Calculations
Introducing a Harmonised Leverage Ratio	Role for leverage ratio: Backstop vs. Parallel measure Scope: Pillar 1 or Pillar 2? Calculation and Uncertainties
Requiring the Build-up of Capital Buffers	Effectiveness of counter cycle capital controls Implications for capital adequacy calculations Scope: Pillar 1 or Pillar 2? Development of a provisioning approach Determination of the timing and range of the cycles
Strengthening Counterparty Risk Coverage	The use of central counterparties The calculation of capital requirements Marking-to-market

The Wider Regulatory Map

1.10 These proposals are just one part of a much broader set of changes to regulation affecting the financial sector in the UK. These include:

(a) Measures that had only recently been implemented prior to the crisis, and had probably not yet been fully absorbed into behaviour, prices, demand or market structure. These include in particular the Capital Requirements Directive (implementing Basel II) and the Markets in Financial Instruments Directive.

(b) Measures that had been planned before the crisis but scheduled for introduction shortly afterwards. These include the Solvency II Directive and the new Clearing and Settlement framework.

(c) Measures introduced at least partly in response to the crisis which affect the broader financial sector but are not directly aimed at banks themselves. This includes in particular the Alternative Investment Fund Managers Directive.

(d) Measures introduced, proposed or debated in response to the crisis affecting mainly the banking sector. These include measures requiring or effecting

- new arrangements for cross-border supervision and crisis management
- changes to capital and liquidity requirements even under existing regulatory structures and new measures such as changes to trading book capital requirements
- new special administration regimes or other resolution mechanisms
- the restriction or separation of activities
- restrictions on remuneration or dividend policy
- caps on size, connectedness, concentration or complexity
- accounting changes
- taxes or stability fees
- macroprudential oversight

1.11 The sheer scale of regulatory change might arguably be an appropriate reflection of the scale of the crisis. But one consequence is that many different forms of measures have arisen reflecting different theories about what went wrong and how best to address it, and these measures are often overlapping — providing two or even many different regulatory requirements addressing the same underlying risk concept. An important issue for consideration is the extent to which these measures might eventually be seen as contradictory or that some of them are seen as superfluous — obviously, superfluous and unnecessary regulations create costs of compliance and other negative impacts.

2 ALTERNATE VISIONS OF THE FUTURE OF BANKING REGULATION

- 2.1 The Basel Committee's proposals reflect a broad view within the policymaking community as to the proper future direction of banking regulation. According to the picture informing this view, the crisis illustrated that:
- (a) regulation (whether primarily in practice or in application through supervision) was inadequate, particularly in respect of risk-taking
 - (b) the capital banks were required to hold was inadequate, and some banks had been allowed to become seriously over-levered
 - (c) banks had been permitted to become dangerously illiquid
 - (d) mechanisms for international coordination were not sufficiently developed
 - (e) assurances to depositors were not credible
 - (f) resolutions regimes were too slow
- 2.2 These weaknesses partly reflected and partly exposed a broader lack of proper macroprudential oversight and the absence of tangible tools of macroprudential management.
- 2.3 For reasons we shall explore in more detail below, it is widely believed that the obvious conclusion from the above is that
- (a) capital requirements must increase significantly, perhaps combined with leverage restrictions
 - (b) liquidity standards must be established and set at a much higher level than was previous standard practice
 - (c) risk-taking must be curtailed and incentives within depository institutions for employees to take risks (such as those in bonus schemes) must become closely regulated
 - (d) deposit insurance must become much more extensive
 - (e) resolution regimes must be extended.
- 2.4 Our main goal in this section is to contest much of this picture. Specifically, we shall contend that
- (a) the key changes must be those in respect of resolution regimes and liquidity

- (b) the case for greatly increasing capital requirements is much less obvious than usually assumed
 - (c) the case for extending international coordination of regulation is not made
- 2.5 We shall do this mainly by sketching an alternative set of lessons from the crisis and an alternative model for the future development of banking regulation, in which large increases in capital requirements are not necessary. One integral aspect of this will include a consideration of significant changes to the institutional structure of banking regulation (a change in which institutions are the regulators). In our model, the prudential regulation of banks should be carried out through central banks exercising discretion based on the specific circumstances of particular institutions in the context of a wider macroeconomic and macroprudential view. In this picture, the exercise of discretion means that the main formulaic rules of prudential regulation serve mainly as a guide to the likely thinking of discretion-exercising supervisors. However, there is a second function of these rules — some of them may serve also as a constraint on the exercise of discretion.⁴
- 2.6 We do not aspire, in this short report, to set out our alternative model in full detail. But we do believe that our picture should be regarded as a challenge to the assumed prevailing trend in international banking regulation. The fact that such an alternative picture can be offered in which large increases in capital requirements and in international coordination are not needed might mean that, even if one disagrees with our picture in fundamental ways, there might well be other alternative pictures of banking regulation that do respond to the events of the crisis (we would fully endorse the view that matters cannot carry on as they did before) but without greatly increasing capital requirements or international coordination.

Diagnoses

- 2.7 Within the Basel proposals there is an obvious tension between diagnoses of the crisis and which measures are best to address it. Was the key issue really
- (a) Inadequate liquidity;
 - (b) Inadequate capital;
 - (c) Inadequate risk management;
 - (d) Inadequate macroeconomic or financial management tools (macroprudential tools);
 - (e) Inadequate international coordination; or
 - (f) Inadequate resolution regimes.

⁴ Readers familiar with the literature on inflation targeting might naturally see an analogy with the concept of an inflation target as a regime of “constrained discretion”.

- 2.8 The intellectually cheap answer is, of course, that it was all of these things, and that additional regulation is required in all of these areas. But even if that were true (which is far from as obvious as many commentators assume), the question would remain: which of these inadequacies were symptoms and which were causes?
- 2.9 In Appendix 1 we set out two classes of explanation of the crisis. These two different visions suggest very different paths for future regulation. If the crisis demonstrates that agents are fundamentally irrational and that the major tenets of modern finance theory are all incorrect, as in the latter view we study, the message of the crisis for future regulation will be very different from if we can understand the crisis as having exposed problems in the incentive structure of regulation, macroeconomic management framework, and the competitive structure of the industries involved — problems that rational agents then exploited.
- 2.10 Our view is that it is simply an intellectual error to abandon modern finance theory, and to believe that its insights will systematically mislead us in formulating regulation, with the conclusion that therefore the right route forward is simply far bigger buffers of all sorts to protect us — much more capital, much more liquidity, much greater restrictions on risk-taking — without having any hope of economic analysis providing us with precise insights into how much of these different buffers are really required. In addition, some of these buffers may overlap with already-existing measures in the UK which could result in foregone output (as more is capital tied up this leads to less deployment for lending). Instead, we believe that, with time and reflection, we can see the economic, rational nature of the problem and how best to respond, and that many of the relevant insights are already accessible.
- 2.11 If we are right, there is an important over-riding implication: the fundamental ambition of prudential regulation of the banking sector cannot be that such restrictions are placed upon banks — such high capital ratios; such extensive liquidity standards; such close risk-taking restriction — that no bank will ever fail. Companies going bust is not capitalism failing; it is capitalism *working*. And it is precisely *because* capital bears risk that it receives a return. All providers of capital must bear risks — shareholders, bondholders, depositors, purchasers of retail financial products. Fractional reserve banking is an *intrinsically* risky activity. If providers of capital that is to be used in fractional reserve banks are insured (explicitly or implicitly) by the state, that inevitably creates an instability at the heart of capitalism. Furthermore, innovation is intrinsically risky. Regulation that attempts to offset the instability created by the insuring of the providers of capital by restricting the risk-taking of banks will only make progress via the snuffing out of innovation.
- 2.12 Shareholders, bondholders, depositors, and purchasers of retail financial products are *investors*. As such, they must take risks. If they cannot be permitted to bear downside risk — if governments will not allow them to take losses — then they should not be permitted to make upside gains, either. Indeed, they should not be permitted to invest in private capital at all. That this seems an absurd suggestion goes to demonstrate the

importance and urgency of changing regulation so that investors *are* exposed to downside risk, the most important and urgent class of which are bondholders.

- 2.13 The proper key foci of banking regulation should be resolution regimes and mechanisms to enable bondholders to make losses. It should not be considered an option to design the regimes in acceptance that the state will always have to bail out bondholders. As we shall argue further below, the other key issue is liquidity.

A Taxonomy of Crises

Forms of crisis

- 2.14 Let us distinguish between three forms of crisis that firms — in any industry — can face:
- (a) Liquidity crises
 - (b) Solvency crises arising from past losses
 - (c) Future profitability crises
- 2.15 A liquidity crisis is a lack of available cash to pay bills that are now (or will shortly become) due for payment. If there is no solvency problem, either from past or future losses — in other words, if a firm has assets securely greater than its liabilities and likely to remain greater than liabilities if the firm continues trading — then a liquidity crisis can be resolved straightforwardly by borrowing money.⁵
- 2.16 A solvency crisis arising from past losses is less easy to resolve by just borrowing money — though that may be a solution. When a firm has assets less than its liabilities, there is a risk to its continuing trading, because perfectly normal business practices — like paying bills at the end of the month — will impose risks on the firm's suppliers (if it were to cease trading there would not be sufficient money to pay all those to whom the firm owes money). If a firm's future profitability is secure, it might trade its way out of problems — future profits will restore solvency eventually. In some industries, however, the risks imposed by insolvent firms continuing to trade will be high (for example, an insolvent firm may be tempted to take great risks, because limited liability for shareholders makes those risks a one-way bet for an insolvent firm). Indeed, in some industries it is considered sufficiently risky for insolvent firms to continue trading that it is not normally permitted — banking would be an example. An alternative way through would be an injection of new capital — "recapitalisation". This restores solvency, and if future profitability is secure, then this may be sufficient.
- 2.17 Lastly, we have a future profitability crisis. By this we mean a situation in which either there will be future losses rather than profits, or, at best, future profits will be insufficient to pay off future interest on current debts. In other words, the company is no longer viable

⁵ A liquidity crisis is perhaps the most natural pair of the "lender-of-last-resort" concept of prudential regulation. The other forms of crisis are not such "clean" matches to prudential regulation concepts.

over the medium term in its current form. In such a situation, unless the company is liquidated quickly or action is taken to raise future profitability expectations, equity capital will disappear and the company will become insolvent. In this kind of situation neither lending nor recapitalisation will be adequate, unless accompanied by a credible plan to restore profitability. An attempt to address such a situation by recapitalising will simply throw good money after bad, because future losses will, over time, eliminate the new capital injection — all recapitalisation will achieve is to (i) lose more money; and (ii) put off, a little, the day at which the company becomes terminally insolvent.

- 2.18 The kinds of institutions likely to be involved will differ depending on the nature of the crisis. A pure liquidity crisis may be resolvable by the central bank alone. A solvency crisis arising from past losses may require wider input — for example, institutions providing new capital injections may be competitors of the banks they are recapitalising and give rise to competition considerations, necessitating the involvement of merger and other competition authorities; if the taxpayer is involved in the recapitalisation then Member State ministries of finance will need to be involved, as may European Commission authorities considering whether issues such as State Aid arise. Similarly, if there is to be major restructuring of the industry that may, again, give rise to competition issues, and also may potentially have very broad economic and political implications (e.g. concerning the security of ordinary deposits) necessitating the involvement of multiple government departments and institutions.
- 2.19 Thus, perhaps the most obvious relationship between supervisory arrangements and the nature of crises might be that:
- (a) if the crisis is purely or mainly a liquidity crisis, then central banks would be in the lead;
 - (b) if the crisis is purely or mainly a solvency crisis arising from past losses in which taxpayer capital injection is a potential policy response, then finance ministries would be in the lead;
 - (c) if the crisis is purely or mainly a future profitability crisis necessitating significant industrial restructuring, then competition and industrial policy authorities would be in the lead.
- 2.20 Thus, the appropriate institutional arrangements for prudential supervision might well depend on the form of the crisis. In practice, of course, most crises will involve a blend of these three aspects, but the balance between them (and hence the appropriate balance in supervision arrangements) may differ materially between crises.

Scopes of crisis

- 2.21 As well as differing in form, crises can differ in scope. For example, a crisis might
- (a) affect just one firm or a small and contained number of firms (e.g. the collapse of Barings Bank did not create a systemic crisis);

- (b) affect sufficient firms to represent a systemic crisis within one country or a small number of countries (e.g. the Scandinavian banking crisis of the 1990s did not generate financial crisis in France or Spain);
- (c) be sufficiently widespread to constitute a systemic event even at the international level (e.g. the financial crisis beginning in the summer of 2007).
- 2.22 Clearly the institutions involved will depend on the scope of the crisis. If a crisis is systemic at the international level, then there will almost certainly be involvement for bodies, such as the IMF and the Basel Committee, that would be much less likely to have an interest in crises affecting only individual institutions.
- 2.23 Another issue of scope concerns the sectors affected. The classical account of financial contagion involved bank runs. This is, however, outdated in the modern financial system. Insurance firms possess significant systemic threats of their own. A clear example of this from the recent financial turbulence is the case of American International Group (more commonly known as AIG), whose role of insuring investment vehicles meant that its collapse was considered too great a risk to financial stability.⁶ Its failure would certainly have had significant affects on European institutions. Insurers will shortly be required to follow the Solvency II rules laid out by the European Commission. These requirements are often coined the "Basel for insurers", and stipulate the minimum amounts of financial resources that insurers and reinsurers must have in order to cover the risks to which they are exposed, and provide principles to guide the insurers' overall risk management.
- 2.24 It is useful to distinguish between contagion arising via an exposure channel and an information channel. In the case of the exposure channel, this refers to a bank's insolvency problem leading to a chain reaction of bank failures in other locations (the collapse of Lehman Brothers is a case in point). Contagion via the information channel refers to the way in which information about one insolvent bank can quickly develop into a general belief that other banks are also having problems. This form of contagion was seen in many ways in the last year, including 90 per cent plus drops in the share prices of major UK banks, and a rush to the "safe haven" of the fully government backed deposits in Irish banks by UK depositors.

Our view

- 2.25 Our view is that the current crisis has most probably taken the form of a liquidity crisis associated with fears concerning a combination of future profitability and regulatory response. (Note that the *form* of the crisis is distinct from the *causes* of the crisis, which we explore in Appendix 1.) Regulatory response was particularly impeded by the lack of adequate resolution regimes and mechanisms for ensuring the liquidity of depositors in the event of bank failure.

⁶ On the 16th September 2008, AIG's credit rating was downgraded and it suffered a liquidity crisis. That evening the US Federal Reserve announced that a 24-month credit-liquidity facility was to be created from which AIG may draw up to \$85 billion.

2.26 Thus, in our view, it is resolution regimes, supervisory response regimes, and liquidity requirements that should be the key areas to be addressed. Increased capital requirements are, we think, very much a secondary consideration, which might serve at best to extend the period before future crises became acute, unless the other, more fundamental, issues are addressed adequately.

Banking crises through history

2.27 Though the distinction between liquidity crises, solvency crises, and future profitability crises are important, once a crisis has begun, it will soon display the symptoms of both liquidity and solvency problems. If a bank is short of capital, it will not be able to get liquidity; and if it is short of liquidity, it will be forced to distressed asset sales, and will thus start to run out of capital.

2.28 Which crisis origin has been more common? The answer is that liquidity crises have been overwhelmingly more common.⁷ Every recorded crisis in Britain from that of the outbreak of the Napoleonic wars before the present one has been the result of a liquidity shortage.⁸ The same is true of US crises, including that of 1929-33, and of crises in every other major developed country and most developed countries. Even in the 1998 crisis, the East Asian banks required liquidity, albeit in many cases in a currency their respective central banks could not supply. The only exception prior to the present crisis was the Japanese crisis which started in the late 1980s and ran on into at least the 1990s.⁹ A simple way to demonstrate the nature of the latest crisis is to observe that it was not transmitted by monetary channels — countries with floating currencies experienced contagion one to the other (Britain and the USA), while countries with the same currency in some cases escaped the contagion, as Finland, a member of the Eurozone, did for example.

2.29 Insofar as a crisis is liquidity-driven, higher capital requirements will not have provided protection. Insofar as a crisis is associated with future unprofitability, all that increased capital buffers can do is to buy time — they cannot obviate the need for restructuring or resolution, and may do not more than delay the inevitable, throwing good money after bad.

2.30 It is still a matter of dispute what was the balance between liquidity, solvency and future profitability issues for the banking sector in 2007/8. In particular, it is still to be resolved how many of the institutions that have received government assistance will prove to be fundamentally unprofitable over the longer-term and require significant restructuring.

⁷ Calomiris, C (2009) 'Rules of the game' forthcoming in N. F.Crafts, T.C.Mills, and G.E. Wood. "Money, Finance, and Trade: Essays in Honour of F.H. Capie", Rout ledge, 2010

⁸ Wood, G (2010) 'Was Tolstoy Right? The Banking Crisis of 2007- 2010 in Historical Perspective' A paper prepared for a conference to be held at the European University Institute, Florence, on May 7th and 8th, 2010.

⁹ Wood, G (2010) 'Was Tolstoy Right? The Banking Crisis of 2007- 2010 in Historical Perspective' A paper prepared for a conference to be held at the European University Institute, Florence, on May 7th and 8th, 2010.

2.31 Even insofar as solvency issues associated with past losses were involved — in particular, losses on CDOs, it is difficult to disentangle the solvency and liquidity aspects, since as notionally AAA securities CDOs contributed significantly on both fronts.

2.32 In addition, the British Bankers' Association in their evidence to the Treasury Select Committee, state that

While the circumstances of each failure differs, a common theme appears to be high leverage with undue reliance on short term wholesale funding. Banks that are less reliant on short term funding have found it easier to restructure their business mix.¹⁰

2.33 So, even if one does not accept our analysis of the recent crisis, one must ask whether the current attention being paid to significantly increased capital is really justified. Even if solvency problems associated with past losses *do* turn out to have been a key factor in this crisis, given the broader history of the sector are we not risking focussing on what happened recently rather than what happens most often? Another way of putting the point is: if we introduce additional measures to ensure that there is liquidity (thereby addressing what has overwhelmingly been the key issue for the sector throughout its history), do we really need also to significantly increase capital requirements? What is our goal, here?

The Goal of Prudential Regulation

2.34 What is the proper goal of prudential regulation? Prudential regulation and supervision can be conceived of as operating at three levels:

- (a) as **the counterpart of the lender of last resort function**: Imagine a central bank that operated as a “lender of last resort”, in the sense of providing the currency managed/issued by the central bank in notionally limitless quantities under certain conditions — for example, if the borrowing bank were solvent; would remain solvent even after paying penalty interest on loans from the central bank; and faced a liquidity crisis as a consequence of a systemic liquidity crisis rather than as a consequence of poor cashflow management. In order to carry out this lender of last resort function, the central bank would need to establish whether these conditions applied — it would need some form of oversight of the solvency and liquidity of those banks for which it promised to act as a lender of last resort. A natural partner of determining whether lender of last resort funds would be available would be informing the bank of when it was at risk of ceasing to be eligible for such borrowing. This form of oversight/lender-of-last-resort arrangement might even exist with a private central bank (e.g. like the

¹⁰ British Bankers Association quoted in House of Commons Treasury Committee (2010) ‘Too important to fail– too important to ignore’ Ninth Report of Session 2009–10, Volume 1, paragraph 73

Bank of England until 1946) — this is not intrinsically a state regulatory function. Note that this form of regulation exists to protect ***the interests of the currency manager***.¹¹

- (b) as **the representative of small stakeholders**: The managers of depositing institutions face limited liability (even if managers are also shareholders, bankruptcy is a limited form of punishment). Therefore they have incentives to engage in risky activities that might return high rewards but also might lead to large losses — or alternatively to engage in many different very risky activities, each of which has only a relatively small chance of success. This means that such managers need monitoring by those whose money they invest. However, many depositors are small (in fact a major function of banks is to collect relatively small deposits to use for relatively larger loans) so each depositor faces incentives to free-ride on the monitoring of other depositors, and the same would apply to a bank with many small shareholders. Hence (in the absence of market-led aggregate monitoring solutions) there may be under-monitoring of banks to the detriment of some depositors and shareholders. Hence it is argued that there is a need for private or public “representatives” of small stakeholders.¹² Note that this form of regulation exists to protect ***the interests of the providers of bank capital***.
- (c) as **the protector of financial stability**: Failure by one financial institution might harm not only its depositors, but also other firms by affecting the confidence of investors more widely. For example, because banks operate on the basis of fractional

¹¹ Concerning the lender of last resort function as conducted by the European Central Bank (ECB), Article 105 (5) of the Treaty states that “the ESCB [European System of Central Banks] shall contribute to the smooth conduct of policies pursued by the competent authorities relating to the prudential supervision of credit institutions and the stability of the financial system”. Article 25.1 of the ESCB Statute authorises the ECB to “offer advice to and be consulted by the Council, the Commission and the competent authorities of the Member States on [all relevant legislation]”.

The ECB’s advisory role in supervising credit institutions could be extended into a more direct prudential function if it satisfies the requirements of Article 105 (6) of the Treaty that state, in relevant part, “the Council may, acting unanimously on a proposal from the Commission and after consulting the ECB and after receiving the assent of the European Parliament, confer upon the ECB specific tasks concerning the policies relating to the prudential supervision of credit institutions”.

This has not been implemented thus far, presumably because the strong political support required within the Commission and the Parliament has been lacking.

Perhaps partly as a consequence of this, concerns have been raised over the ambiguous division of authority between the Member State central banks and the European Central Bank (ECB) with regards to the provisions governing emergency liquidity, and have been subject to a variety of interpretations regarding the exact role of the ECB and national central banks (Goodhart, 2000; Kremers et al., 2000; Padoa-Schioppa, 2004; Lastra, 2006). This has led to academic uncertainty regarding the ECB’s role in a liquidity crisis, and a lack of academic confidence in the European System of Central Banks’ (ESCB) lender of last resort function. Tommaso Padoa-Schioppa, a former ECB official, dismissed these concerns as unfounded because relating to an outdated concept of the lender of last resort function. In the European Parliament study “Financial Supervision and Crisis Management in the EU”, it states that: “Padoa-Schioppa’s views appear to have been vindicated in the recent crisis in light of the ECB’s successful management of market operations to inject liquidity into the eurozone banking system during the liquidity crunch.” However, at the time of the writing of that report there was particular acclaim of the ECB’s liquidity operations during 2007 — in contrast, 2008 has seen greater criticism of the ECB’s handling of events.

Many commentators argue that the that EU and ESCB procedures and mechanisms for resolving a financial crisis should be publicised in advance and that they should be clear regarding which EU institutions and Member State bodies should have responsibility for providing emergency liquidity.

¹² This is the famous Dewatripont and Tirole “representation hypothesis”. See Dewatripont, M. and Tirole, J. *The prudential regulation of banks*.

reserves, bank runs can sometimes cause the failure of even the soundest banks.¹³

Note that this form of regulation exists to protect ***the interests of other financial institutions (and perhaps also the wider economy)***.

- 2.35 The prudential regulation of banks typically blends these three aspects in some way. It is worth noting however, that these three notions of supervision involve subtle differences of stakeholder and thus potentially different (and even potentially conflicting) supervisory interests. These interests are not even clear subsets of one another. For example, the providers of bank capital have an interest in maximising return as well as controlling risk. It is by no means obvious that the risk-return trade-off that would be optimal for stakeholders in an individual institution is the same as that optimal from the point of view of maximising stability for the system as a whole.¹⁴ Again, the manager of the currency may be content with more risk for certain institutions than would be considered optimal from the point of view of the wider economy under some circumstances, but less risk under others (e.g. the famous “paradox of thrift” points to a situation in which banks maximize their individual stability but the wider economy is said to suffer as a consequence).

Rules vs Discretion

- 2.36 Armed with an understanding of what prudential regulation might be for, one implication of the crisis might concern the inevitable limitation of rules. The Basel II framework simply did not envisage the kind of crisis that emerged in 2007-8. Some regulatory commentators believe that the lesson is that the rules need to be changed to address such a scenario and the factors leading up to it. But this idea runs the risk of simply building regulatory tools and developing tactics to fight the last crisis, which are then irrelevant to the next. If significant unforeseen contingencies — events that are not anticipated in advance — might occur with some material frequency (e.g. every few decades), then just responding to unexpected events by modifying past rules on the basis of new events will expose the regulatory framework to periodic systemic crises.
- 2.37 A different lesson might be that for any rule there will be unforeseen contingencies and that therefore over-reliance upon any rule can be a source of systemic weakness. Instead, any system of regulation must offer more scope for the exercise of judgement.

¹³ For example, during the US bank runs 1930-32, the Bank of the United States failed, but paid over 92 cents in the dollar to its creditors (albeit some time later).

In passing, we note that the issue of confidence loss contagion leading to bank runs on sound institutions is rather less straightforward than many accounts suggest. It is most unclear why, under conditions of widespread bank runs, sufficiently sound institutions could not simply offer very high interest rates to attract depositors — the example of IceSave illustrates that depositors are indeed attracted by high interest rates even under conditions of crisis (and IceSave was not eliminated by a bank run) — or borrow from sophisticated highly-monitoring lenders (e.g. other banks or a private central bank).

¹⁴ This point has been raised, for example, in the UK in the context of the “dual mandate” of the FSA in respect of the stability of individual institutions and the stability of the financial system as a whole.

International coordination vs national discretion

2.38 Most commentary surrounding recent events takes the view that what is needed in response is much more international coordination of financial regulation. We might distinguish between three positions here:

- (a) On the standard view, one lesson of the highly internationalised nature of the financial crisis is that regulation has not kept pace with globalisation of finance. The Basel II measures have been exposed as not enough or inadequate and in order to foster international financial markets and the benefits that accrue from them, we ought to have much deeper coordination of the international regulatory framework.
- (b) A diametrically opposed view notes that there has been a very considerable increase in the international coordination of financial regulation over the past twenty-five years, including the Basel process but also encompassing developments such as the Europe Union's Financial Services Action Plan. Given that regulatory weakness might have been a direct contributor, one must surely wonder whether the international coordination was a driver of the internationalised nature of the crisis. Perhaps we have purchased less opportunity for regulatory arbitrage at the expense of greater internationalisation of systemic risk? While further increasing international co-operation might reduce the risk that regulation proceeds along different lines in jurisdictions, undermining global capital flows, one surely must ask whether it risks itself becoming a conduit of the next global financial crisis?
- (c) A position intermediate between these two might contend that the Basel II measures were not implemented globally and had only these measures been adhered to in an internationally co-ordinated manner, the crisis would have possibly been less severe. From this perspective the lesson might not be that, in order to reduce systemic risk we need *more* international coordination (as per the first position) or less (as per the second) but, instead, a full and proper implementation of the degree of financial coordination we already had. That does not mean that regulation need not change, but it might mean that a goal of greater harmonisation of regulation is premature and misguided.

The industry position

2.39 Before turning to our own view, it is important to state the industry position.

2.40 This is essentially view (a), combined with (c) that the crisis illustrates that deeper international coordination and implementation is required, and that this is particularly so in respect of new regulation to be introduced in response. The industry believes in an agreed international framework of principles and rules being implemented consistently in form, timing and structure by national states. The industry regards this as very important when the majority of institutions operate cross border and internationally.

2.41 The danger, so this thought goes, is that additional regulation is introduced in some jurisdictions before others. This is thought particularly relevant in respect of the EU and

indeed the UK. There is a concern that Europe will introduce regulation that will not apply to the same degree or in the same way in the Gulf, in China, in Singapore, perhaps in Australia, and that financial sector business will relocate — regulatory differences serving, perhaps, as a last straw added to increased general tax levels, specific taxes directed at financial sector employees, antipathy towards foreign takeovers, and so on. As well as being thought possible at the European level, this is also feared at the UK level, where regulators and certain political leaders appear willing to move before the rest of the world.

- 2.42 This risk that regulation will not apply evenly or that regulation will apply in the UK before the rest of the world is seen as a significant threat to London's competitiveness. It is therefore widely urged that the Basel measures enact a common international timetable. International firms that operate in multiple markets are particularly keen to see common, consistent frameworks and standards applied.

Our view

- 2.43 Our sympathies lie with view (b). That is to say, we believe that flaws in regulation, common across the developed world, were a key factor in the international nature of the crisis, and that there is a trade-off here between the facilitating of globalisation and reduction in regulatory arbitrage on the one hand, and the increased internationalisation of systemic risk on the other.
- 2.44 We do not believe that it is obvious that this trade-off is unfavourable to increased international coordination — the gains from globalisation might well outweigh the losses from systemic coordination. We acknowledge the benefits of a fully harmonised prudential capital and liquidity regime. From an industry point of view, this can be seen as important in terms of reducing risk in the financial system globally, reducing the burden on banks of regulatory compliance, and ensuring a consistent approach for internationally active banks across multiple borders. At the same time, it is easy to see how international divergence may lead to increased risks in the system, whereas harmonisation contributes to streamlining supervisory processes, and creates a level playing field across markets, thereby supporting market confidence. Additionally, discretion in local and regional regulation could also be used anticompetitively by authorities to protect their local markets. In this context, lack of harmonisation could also be seen as a missed opportunity to implement unpopular or regulations that require a broad consensus.
- 2.45 Furthermore, even if international coordination were not to increase, that would not mean we should not change existing rules where they had proven inadequate (e.g. especially in respect of liquidity).
- 2.46 But we do not believe that this trade-off has been subjected to anything like the deep analysis that the nature of this crisis merits, in advance of determining that greatly increased international coordination is really the best way forward.

- 2.47 Another point to note about international coordination is this: there is a tension between great international coordination and greater use of discretion on the part of national lenders of last resort. This is partly because, as Mervyn King memorably put it, “global banks are global in life, but national in death”. But it is also because the exercise of discretion requires an intimacy with the institution concerned that is simply infeasible for any global standards-setter to achieve.
- 2.48 One key apposite illustration of this relates to capital requirements. If no bank could be permitted to have capital fall below its regulatory capital requirements, then regulatory capital requirements would be additional to market requirements — markets would insist that banks had to hold large buffers over-and-above their regulatory capital requirements so as to limit the risk that capital fell below regulatory requirements forcing the banks to be closed or supported by the authorities. (Indeed, such a regime might even provide opportunities for short-sellers to exploit this flaw, and hence necessitate restrictions upon the activities of short-sellers in the sector — restrictions that would impair the functioning of the relevant markets further.)
- 2.49 To avoid this problem, regulatory authorities must be willing to accept that capital will fall below capital requirements, temporarily, under certain circumstances. But it will not be possible, in advance, to specify in precisely which circumstances regulatory authorities should exercise such forbearance and in which they should insist on rapid rectification, takeover, or administration. Only a national authority (ideally a central bank) can do this.
- 2.50 And of course that means that, in practice, no internationally-set capital requirement can even serve as a hard floor. If national discretion is key, then regulatory requirements can only ever be indicators of the likely judgement of the prudential regulator, never hard thresholds. That concept is in clear tension with the Basel Committee’s traditional approach.
- 2.51 The argument above concerns the value of nationally-exercised regulatory discretion. In addition, we see potential value in regulatory competition. Differences in regulation can inform regulatory improvements. This is not a merely theoretical issue. Current proposals in respect of capital buffers and dynamic provisions reflect lessons drawn from the differences between regulations enacted in Canada and Spain and those elsewhere. Eliminating regulatory competition foregoes the opportunity to learn such lessons. We believe that there may be many further lessons yet to learn in banking regulation, and that regulatory competition would be a valuable learning resource.

The Rest of this Report

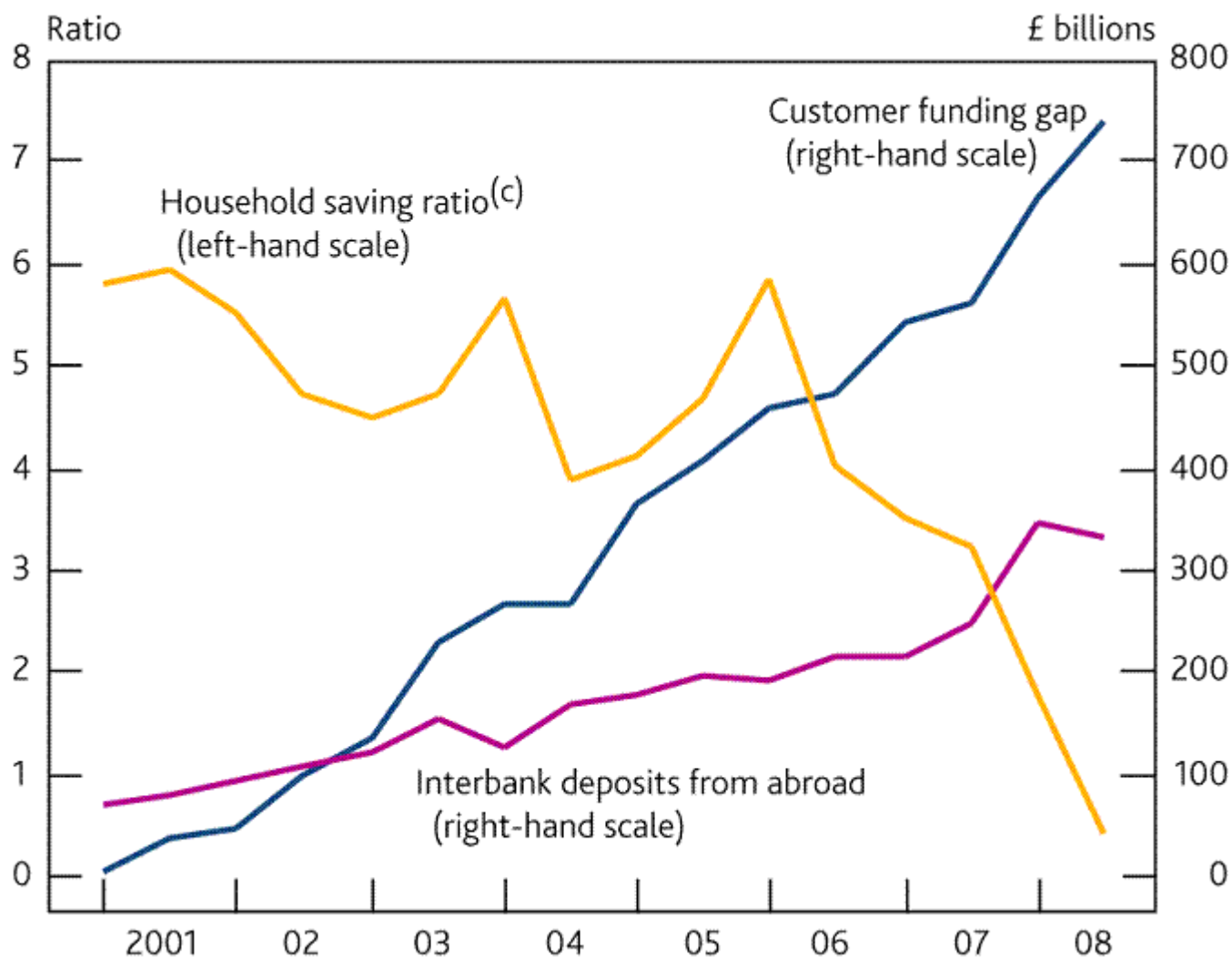
- 2.52 We turn now to the specific Proposals, and certain specific issues arising. We consider, in turn
- (a) Liquidity
 - (b) The quantity and quality of capital
 - (c) A leverage limit
 - (d) Countercyclical capital buffers
 - (e) Transitional issues
- 2.53 We then conclude, offering recommendations.

3 LIQUIDITY STANDARD

Context

- 3.1 In a stylised traditional banking model, banks “borrow short and lend long” (this is referred to as the “maturity transformation” function of banks). They accept deposits (they borrow money from depositors) but those deposits can be withdrawn very rapidly — some are even literally on-call. In contrast, they lend to borrowers on a longer-term basis — perhaps five years for personal loans; perhaps twenty-five years for mortgages; and a range of timescales for commercial loans.
- 3.2 The liquidity risk for traditional banking is associated with the risk that depositors choose to withdraw more of their funds than the bank has available at the time or can obtain rapidly by selling its assets (i.e. selling the loans it has made to borrowers) or providing those assets as collateral for loans.
- 3.3 Modern banking has added in another form of significant liquidity risk — a form that was particularly important during the financial crisis: the wholesale funding gap. Whilst in 2001 in the UK, for example, the amount that British banks had lent was roughly equal to the amount they had borrowed from British households, businesses and institutions too small to be players in global financial markets (roughly, the total deposits), by June 2008 the amount lent was about £740bn more than deposits, equating to about 40 percent of the value of loans made. This gap, referred to by the Bank of England as the “customer funding gap” (see Figure 3.1) is covered by borrowing from large financial institutions, money managers, very large companies and other short-term wholesale sources. Such wholesale funds are usually raised on a short-term rollover basis with instruments such as Jumbo CDs (large-denomination certificates of deposit), repurchase agreements (Repo), fed funds, commercial paper, eurodollar deposits, and large brokered deposits.
- 3.4 This creates an additional form of liquidity risk: banks may not be able to roll over wholesale funding.

Figure 3.1: Major UK banks' customer funding gap



Source: Bank of England

Last resort lending and collateral

3.5 In traditional theories of central banking, insofar as banks with pure liquidity issues have underlying solvent business models, insofar as they will remain solvent if they pay a penal rate for borrowing from the central bank, and insofar as their liquidity problems arise from system-wide liquidity problems rather than poor cash management, liquidity problems should be resolved by the central bank lending money. In the UK context in 2007 and 2008 there were four problems with this, however:

- (a) It was unclear to what extent liquidity problems for certain institutions reflected genuinely unpredictable system-wide issues as opposed to it being the case that poor cash management was widespread in the sector;

- (b) Since it was not the prudential regulator (and perhaps partly for other reasons, such as confusion about European merger law) the Bank of England did not, at an early enough stage, have sufficiently intimate knowledge of the institutions involved to determine how robust was their stability;
 - (c) Some of the institutions appear not to have had sufficient appropriate assets of sufficiently high quality to serve as collateral according to the Bank of England's existing criteria;
 - (d) In the case of certain of the institutions, the scale of lending required could have presented a threat to the solvency of the Bank of England itself, without indemnification from the Treasury or authority to print money to fund poorly-collateralised lending.
- 3.6 This example illustrates that, although there may have been weaknesses in the institutional framework, and although without those weaknesses the problems with liquidity provision and liquidity management for banks might not have become so severe, nonetheless there were significant flaws in liquidity provision.
- 3.7 In situations where firms do not make adequate provision or otherwise adequately self-insure against liquidity stress events, liquidity crises at individual firms can lead to systemic instability (*vide* the effects of the Northern Rock run). Liquidity stress events are not rare in the global financial markets, and while the recent financial crisis has been on a particularly wide and severe scale, name-specific and market-wide liquidity stresses have occurred frequently over time.
- 3.8 A liquidity standard would aim to ensure enough liquidity is held by institutions to promote system-wide stability.
- 3.9 On the other hand, it should be borne in mind that a differentiation between lending with more and with less than one year maturity (as introduced by the Proposals) could set undesirable incentives that could discourage for instance long term funding of non-financial enterprises or encourage investment in marketable securities rather than loans.
- 3.10 Liquidity is what banks hold to pay out on demand to their customers — cash, or, much more important, immediately available funds at the central bank. Beyond that, liquidity is whatever the central bank will take as collateral when making loans. It might therefore appear that anything can be liquid if the central bank wishes to make it so. That is the case, but there are many things the central bank could not reasonably be expected to discount. Assets which do not have an existing market, so that the central bank can know what the asset was worth before the liquidity crisis, would for example not be plausible liquidity. But key is that the central bank makes clear what it will normally accept for day-to-day purposes (for it should be quite normal for banks to obtain liquidity occasionally from the central bank even outside times of crisis), what it will accept in a true lender-of-last resort situation, and what it would not accept even in extreme times.

- 3.11 When that is known, prospects of being forced into a capital shortage by an initial liquidity shortage have vanished except for the consciously imprudent.
- 3.12 It might seem tempting to resolve such problems by the central bank being willing to compromise, in a crisis, on the quality of collateral it will demand. However, such an approach gives rise to a time consistency problem in respect of collateral, as follows.

Time consistency problem regarding collateral

- 3.13 Central banks have long been worried that their role as lender of last resort may have the moral hazard problem of causing banks to avoid holding the best-quality, most liquid assets, because they yield less.
- 3.14 In an attempt to induce banks to hold truly liquid assets, the central bank might declare that it would lend against only the highest-quality collateral. But if an otherwise solvent bank gets into trouble and still faces a liquidity problem after taking all of its eligible high-quality assets to the central bank, the authorities face a choice between letting it fail through a lack of liquidity, or lending against a wider class of assets.
- 3.15 Banks may well conclude that the central bank's collateral policy will, during crisis, be relaxed, leading it to choose to hold less of the highest-quality eligible assets than otherwise.
- 3.16 The central bank may then, after all, not be able to stick to its declared collateral policy, just as the bank suspected. A central bank policy of lending against only the best assets is likely to prove time inconsistent when it comes to the crunch.
- 3.17 This is why the Bank of England confirmed in 2008 that it was prepared (via its public facilities), to lend against a wide range of collateral, subject crucially to appropriate haircuts and other terms. The Bank has added to their Sterling Monetary Framework two instruments that are explicitly designed to help contain financial system stress, by providing financing against securities that may become illiquid in stressed conditions:
- A Discount Window Facility (DWF) making available to commercial banks collateral swaps in which the Bank can lend UK government securities in exchange for a wide range of eligible collateral.
 - Long-term repos (LTRs) via which the Bank lends cash against collateral comprising a range of high-quality securities going beyond the sovereign securities routinely eligible in the Bank's shortterm repo operations.
- 3.18 These two facilities both accept a wider form of collateral than for standard short run OMOs.
- 3.19 However, the Bank of England has pointed out that such insurance is not and cannot be a source of longer-term funding to the banking system. Prudent valuations and haircuts mean that their insurance cannot finance anything like the whole of a bank's balance

sheet even in the short run, and also that banks need a clear buffer of surplus capital. Nor is central bank liquidity insurance always going to work.

- 3.20 That underlines why prudent liquidity management must be a major responsibility of the banks themselves. One issue here is whether or not the assets counted by prudential regulators as part of a bank's liquidity buffer should be defined to include all of the assets held by the bank that are eligible in the operations/facilities of the central banks to which the bank has access. The Bank of England argues that they definitely should not.
- 3.21 The collateral eligible at most central banks goes way beyond securities that can be relied upon in stressed conditions to be liquid in private markets (whether outright or repo).
- 3.22 So if they all counted as core-liquidity for regulatory purposes, banks would in effect be liberated from having to hold a buffer of low-yielding assets that they could confidently use in the market before they turned to the central bank. The equilibrium would surely be one in which less of banks' balance sheets were liquid in the markets than is desirable; and in which the banking system in aggregate could run excess liquidity risk from a systemic perspective.
- 3.23 The Bank of England's favored approach is that the regulators should define the 'liquidity buffer' to comprise high quality securities that can reliably be traded or exchanged in liquid markets, including in stressed circumstances. In practice, that would mean focusing on government bonds in many economies. (The FSA is expected to adopt this approach in due course.)
- 3.24 For such a policy to deliver its potential, the Bank is of the opinion that it would be useful if regulators, internationally, required all banks regularly to turn over a meaningful share of their 'stock liquidity' in the market on a reasonably regular basis. That would also help to put banks in a position to reap the benefits of the Bank's Discount Window Facility, through which sound banks can borrow gilts.

Specific Issues

Table 3.1: Summary of Issues

Definition of liquid assets
Scope of application
Branch Liquidity and Currency
Monitoring tools

Definition of liquid assets

- 3.25 Careful consideration needs to be given to what would constitute a liquid asset. If it is only government bonds, it would be worth contemplating whether this would in fact include all governments and in particular whether it would always include government

bonds of the host country of the central bank.¹⁵ This is particularly important because whichever asset a central bank will discount is considered a liquid asset.

- 3.26 Another point to consider is whether certain corporate and covered bonds should also be eligible for the buffer and whether central bank eligibility should be mandatory for the buffer assets.

Scope of application

- 3.27 It is important to consider which institutions should be affected by this liquidity standard, particularly whether entities other than credit institutions and 730K investment firms be subject to stand-alone liquidity standards. This is of particular importance to entities of banking groups which are not subject to stand-alone liquidity standards (i.e. financial institutions or 50K or 125K investment firms). It is, for example, difficult to see why such requirements should apply to institutions that have no liquidity risk exposure equivalent to a depositor or wholesale funding run, or to an institution that does not impose systemic risk (e.g. because it is small, simple, and has limited connections with other financial sector firms).
- 3.28 Short of exclusion from the standard, it might be that different requirements should apply to different business models. In this respect, the industry is concerned regarding the calibration of the Liquidity Coverage Ratio (LCR) and Net Stable Funding ratio (NSFR) and the need for firm-specific factors (such as business model) and changes in bank behaviours to be taken into account over the ratio horizons. Consequently, it is believed that the proposed ratios will likely lead to a complicated set of calculations which will overstate the liquidity risk. This is feared likely to result in a large reduction in the availability of finance to individuals and corporates, with an early and sustained adverse impact on the wider economy.

Branch liquidity and Currency

- 3.29 A broad issue concerning the introduction of liquidity standards is whether credit institutions with significant branches or cross-border services should adhere to separate liquidity standards at the level of branches or whether these could be lifted based on a harmonised standard and uniform reorganisation and winding-up procedures.
- 3.30 It seems to be clear that the treatment of intra-group loans and deposits and intra-group commitments should not be subject to the liquidity coverage or the net stable funding ratio so long as the group in question is run as a cohesive body.

¹⁵ Complexities clearly arise here in the context of the euro.

- 3.31 An important point to consider is the monetary arrangement of the group in question. If it is a common currency it would probably be sensible to apply one standard to the whole group and supervise that group from the home country.
- 3.32 On the other hand, if there are multiple currencies in play, it might be worth considering using more than one standard which in turn would be supervised by the host country (with the particular currency).

Monitoring Tools

- 3.33 It is important to keep in mind whether there is merit of using harmonised monitoring tools, either in the context of Supervisory Review or as mandatory elements of a supervisory reporting framework for liquidity risk.

Remark

- 3.34 In our view, improving liquidity standards are amongst the most important and material changes to be introduced — though they are likely to have high costs that must be recognised. However, the scope for international standards to deliver adequate liquidity is limited without increased roles for national lenders of last resort and in particular an increased role for central banks in prudential supervision.

4 QUANTITY AND QUALITY OF CAPITAL

The Importance of the Number

- 4.1 The Proposals do not offer us specific numbers for the new capital requirements, beyond an indication that they will represent an increase. It will be important, in the Committee's deliberations upon what numbers to choose, to pay attention to the following key issue.

Tendency to over-capitalise vs low incentives given government guarantees

- 4.2 It is natural for most companies (across all sectors — not merely in finance) with material leverage entering financial distress related to solvency in some way to tend to de-lever. One part of that process might be the raising of new equity (e.g. through rights issues). But if a company raises new equity under such circumstances and then returns to the market shortly afterwards in search of more equity, shareholders and bondholders are likely to interpret that as a poor sign — a sign, perhaps, that management is not in control (does not have proper knowledge of the facts) or that the financing situation is so bad that management's hand is being forced in terms of its finance-raising. Either way, the risk is that repeated returns for more equity might result in large share price falls and increased costs of debt.
- 4.3 Furthermore, if other companies are in similar solvency distress, it may be attractive from the point of view of customers and other stakeholders for a company to demonstrate that it is capable of de-levering by more than is strictly required — relative to other players, this increases confidence and means that staff retention and customer retention will be higher, and that trade credit might be more generous.
- 4.4 In consequence, the natural response during de-leveraging after solvency issues is to over-shoot — to de-lever by more in the short term than is required over the medium term. Of course later, leverage would be raised somewhat, again, back to the new equilibrium.
- 4.5 This may be especially true in the finance sector, given the central roles of confidence and trust. A natural policy implication might be that in such circumstances it is particularly difficult to calculate how much to raise regulatory capital requirements and it is very important to counter the tendency to over-raise them.
- (a) First, it is dangerous because the natural tendency for regulators is to believe that capital requirements only have value if they bind on at least many market participants. If regulatory capital requirements did not constrain anyone, what would be the point? But under these circumstances, requirements that force companies to do more than the already excessive de-leveraging the argument suggests they are engaged in might be excessive and damaging.
- (b) Second, firms will tend most to challenge regulation if it is forcing them to do things they would not choose to do freely. But if regulators merely "surf the wave" of de-

leveraging, increasing capital requirements by less than market processes are forcing them up anyway, it is possible that firms will feel little inclination to complain. But over the medium term that would be a mistake, for in the medium term the optimal leverage will rise again, and capital requirements might constrain that process.

- 4.6 Therefore, it might seem that the Basel Committee should be urged to ensure that new capital requirements are less than the amount by which firms are intending to raise capital in the short term.
- 4.7 But there is a counter-case. According to this alternative argument, banks face very limited incentives to de-lever in the short-term, relative to what would be the case in a market setting, because they have implicit guarantees of their bonds from the government. This means that their cost of financing is very low, and insofar as it is attractive to them to de-lever at all from a longer-term perspective, they can do so by making large operating profits and retaining earnings (exploiting the government bailout guarantee). Therefore, if they are to be induced to de-lever to the point that the risk of the government bailout guarantee being called upon falls to an acceptably low level, regulation must force them to do so. By this argument, the Basel Committee should ensure that new capital requirements are higher than the amount by which firms are intending to raise capital in the short term.
- 4.8 Thus, there is a tension between
- (a) A tendency to over-raise capital given the central roles of confidence and trust in financial sector and
 - (b) The risk that banks face limited incentives to de-lever in the short-term, relative to what would be the case in a market setting, because they have implicit guarantees of their bonds from the government.
- 4.9 A natural way through this dilemma would be to ensure that Pillar 1 requirements, which are intended to be in place for many years and not simply directed at the needs of the next eighteen months, should be directed at a view of the longer-term, whilst Pillar 2 provisions be employed to force up capital in the nearer term.

Specific Issues

Table 4.4.1: Summary of Issues

Definitional Issues (including treatment of minority interests, unrealised gains, contingent capital) and Loss Absorption
Striking the balance between: <ul style="list-style-type: none"> • A tendency to over-raise capital given the central roles of confidence and trust in financial sector and • The risk that banks face limited incentives to de-lever given government guarantees
Regulatory Capital Calculations vs Accounting Disclosure Calculations

Definitional Issues and Loss Absorption

- 4.10 The Basel proposals aim to simplify definitional issues by eliminating the distinction between upper and lower Tier 2, as well as eliminating Tier 3 capital all together. While this move bears its advantages in the simplicity that it brings with itself, and further, while the criteria proposed for non-Core Tier 1 and Tier 2 are sufficiently robust to make these distinctions work, there still remains the broad issue of the ultimate purpose of core Tier 1, which is assumed to be loss absorption.
- 4.11 If Tier 1 is aimed to serve as a loss-absorbing measure the question remains whether its definition should be as narrow / broad as possible and / or its percentage as large as possible. There is a danger that if Tier 1 were to be given a narrow definition combined with a large percentage requirement that the costs to the wider economy would be substantial. The following table illustrates this point.

Table 4.2: Tier 1 — Definition vs Percentage

	Small Percentage	Large Percentage
Narrow Definition	Medium Impact	High Impact
Broad Definition	Low Impact	Medium Impact

Minority Interests

- 4.12 Minority interests (a percentage of ownership in a company that does not give the owner the ability to control the company) will not be eligible for inclusion in the Common Equity component of Tier 1. This proposed measure aims to address the concern that while minority interest can support the risks in the subsidiary to which it relates, it is not available to support risks in the group as a whole and in some circumstances may represent an interest in a subsidiary with little or no risk.

- 4.13 It has been suggested that while it is difficult to estimate how much capital banks have tied up in minority stakes this proposal could result in significant reductions in available capital.
- 4.14 It could also place pressure on banks to divest minority stakes in affiliates, or buy the affiliates outright (although only, surely, if having them around presented a very large 'tie-up' of capital). This could potentially reduce cross-border investment by banks taking small 'strategic stakes' in local institutions as a way to build their presence and expertise in emerging markets.

Contingent Capital

- 4.15 The Basel Committee is considering whether contingent convertibles ("cocos") should be eligible for inclusion in Tier 1. "Cocos" serve various purposes, as their pricing provides valuable information to investors, they are a cheaper form of capital for the issuing institution and they expand the range of asset choices.
- 4.16 There is a debate within the industry as to the usefulness of these instruments, and as yet it is unclear whether they will (or should) become widely employed. However, if they were to become widespread, it is clear why the Basel Committee has expressed interest in their status, as they seem to be a natural candidate for inclusion in Tier 1 if the conditions under which such "cocos" would be converted into common equity were properly framed so as to allow of such conversion under genuine going concern conditions (including, of course, that conversion should not trigger adverse market reaction exacerbating the crisis rather than resolving it).
- 4.17 However, one of the proposals under consideration in the US is that banks should be required to purchase "cocos" from the government, so as to provide a mechanism by which the government can recapitalise companies without, in the future, resorting to schemes such as the TARP. But if such a regulatory "coco" is included in Tier 1 assets, then it is not providing a buffer over-and-above privately-provided capital. In order for a regulatory to provide *additional* buffer, it would seem that it should be excluded from Tier 1.
- 4.18 Indeed, in the UK Paul Tucker has suggested that, in effect, all bank debt become contingent.¹⁶ It would surely not be appropriate to respond to this by making all capital Tier 1.
- 4.19 Obviously these are matters that could, in principle, be dealt with by a sufficiently tight specification, on both the regulatory requirement and capital requirement sides, of the conditions under which conversion to equity were triggered, such that these triggers did not occur under what Tier 1 would treat as "going concern" conditions.

¹⁶ <http://www.bankofengland.co.uk/publications/speeches/2010/speech431.pdf>

Counterparty Credit Risk

4.20 The Basel Committee proposals aim to strengthen the capital requirements for counterparty credit risk exposures arising from derivatives, repos, and securities financing activities. They also aim to reduce the risk that shocks are transmitted from one institution to the next through the derivatives and financing channel and increase the incentives to move OTC derivative exposures to central counterparties and exchanges.

The use of central counterparties

4.21 What should be the appropriate level of the risk weights to be applied to collateral and mark to market exposures to CCPs (on the assumptions that the CCP is run to defined strict standards)?

4.22 It has been proposed that to better capture CVA losses the “bond equivalent of the counterparty exposure” approach should be implemented. This would entail a capital add-on by using a bond equivalent as a proxy for CVA risk.

4.23 It might be thought that this approach has certain advantages over VaR models, as those models do not always capture the risk well. However, there is an industry concern that the proposals as currently framed might lead to increases in CCR capital that are highly disproportionate to the risk, and might encourage regulatory arbitrage.

4.24 There is also a concern that the increase in the correlation parameter affecting large financial institutions and all unregulated financial institutions, such as hedge funds, significantly increasing the risk weight and applying across both trading and banking books, might lead to disproportionate impacts.

4.25 Another industry view notes that the CVA charge does not reflect the current variety in the impact on banks’ financial statements, under diverse accounting rules. There is concern within the industry that prudent hedging of counterparty risk should lead to a lower capital charge, and that this is not the case for the proposals in their current form. The industry view is that the treatment of counterparty risk should include some recognition of hedging of the systematic component of credit spread risk as well as micro-hedging of specific exposures, and that this treatment should be consistent with the treatment of credit risk elsewhere within the capital rules.

Regulatory Capital Calculations vs Accounting Disclosure Calculations

4.26 An important issue related to capital requirements is their calculation, irrespective of any definitional issues. One issue here is whether calculations of regulatory capital requirements should be conducted on the same basis as accounting disclosure requirements. While there are benefits and disadvantages to both methods, namely mark-to-market and book value, one of the things to consider is whether or not there would be a case to decouple regulatory capital requirements from accounting disclosures.

Issues arising in respect to mark-to-market accounting

The calculation of capital requirements

- 4.27 There is some debate as to whether calculations of regulatory capital requirements should be conducted on the same basis as accounting disclosure requirements, which in turn raises the question whether these should be conducted on a mark-to-market or historical cost basis.
- 4.28 Under mark-to-market accounting investors are being told the real current value of assets which provides certainty to capital providers. It thus takes into account any possible changes in the valuation of those assets, as opposed to book value which only considers historical prices. However, it is also argued that marking to market in conditions of closed markets driven by illiquidity pushed many banks toward insolvency and forced banks to unload assets at fire-sale prices, which then caused values to fall even further.
- 4.29 Our view is that the issue being highlighted here is less to do with marking-to-market in general and more to do with the weakness of any rules-based system and the inappropriateness of hard thresholds for capital requirements (as discussed earlier).
- 4.30 To find a middle ground that would protect investors from any hidden bank losses while at the same time prevent banks from becoming insolvent due to short-term declines in the prices of mortgage related securities, there may be a case for regulatory capital requirements to be decoupled from accounting disclosures. The reason for decoupling financial reporting from capital requirements for banks is that financial statements are scrutinized by investors to assess downside risks and potential for earnings growth, whereas regulators analyse these statements to ensure banks have sufficient capital and income to withstand losses on loans or other assets.
- 4.31 While the specificities of such an approach are beyond the scope of this analysis, the general idea is that it would require banks to fully disclose the results under fair value accounting but not to reduce their regulatory capital by the fully disclosed amounts.
- 4.32 We note that the industry does not support the view that regulatory capital should be calculated on an entirely different set of numbers to that used for accounting purposes, though it acknowledges that in some areas the regulatory framework does define exposure value differently to book value (e.g. EAD).

Tension between the rationale for regulatory intervention and marking to market

- 4.33 Regulatory intervention is predicated upon the idea that the regulator knows or understands something that the wider Market does not. But the use of market prices under mark-to-market is predicated upon the idea that market prices encode all relevant information. There is thus a tension: if the regulator knows something that the Market does not, the market price will not encode all the information available to the regulator in making its decision, so mark-to-market valuations can only ever really

serve as guides to optimal regulatory intervention, and not as strict mechanisms of such intervention.¹⁷

Remarks

- 4.34 As set out in the context section of this chapter, it is clear that capital requirements in and of themselves are no panacea to financial instability. Neither should they be. It should be borne in mind that if capitalism were allowed to continue to function as it has in the past, setting regulatory standards that would prohibit any bank from failing in the future would be the wrong ambition.
- 4.35 A bank can only ever have so much capital that failure is impossible if it were completely unleveraged. That would much restrict the business it could do. Modern economies could not function with such banks. A striking example to demonstrate this is that the modern phase of economic growth, at rates anything at all significant above 0-1 per cent, did not start in Britain until banking started to develop.
- 4.36 Accordingly, it has to be recognised that a failure-proof banking system is impossible. Regulation should be thinking about how to produce orderly failures, failures which do not disturb the banking system.
- 4.37 On the other hand, fractional reserve banking can only exist because of trust. Disorderly failures of banks can undermine such trust. So the absence of adequate resolution regimes will tend naturally to be associated with a need for higher capital requirements. In contrast, if resolution regimes (including liquidity provisions for depositors) were improved, it would not be necessary to have such high capital requirements. We believe that the Basel Committee should consider the appropriate new thresholds for capital bearing in mind any advances made, between now and the time the relevant percentages are chosen, concerning resolution processes.
- 4.38 Even then, however, it would be appropriate to pay attention to capital in two ways. Risk weighted capital is valuable, but in recognition that risk weighting is inevitably imperfect, there is a good case for supplementing risk-weighting-based assessments by a leverage ratio to constrain the overall riskiness of the system, provided that (as argued for above) generalised regulatory capital ratios serve as indicators of how a discretion-exercising

¹⁷ We set aside here, whilst acknowledging it, the tradition according to which there is merit in binding the regulator through strict rules. We note our earlier comments in this respect about the virtues of constrained discretion.

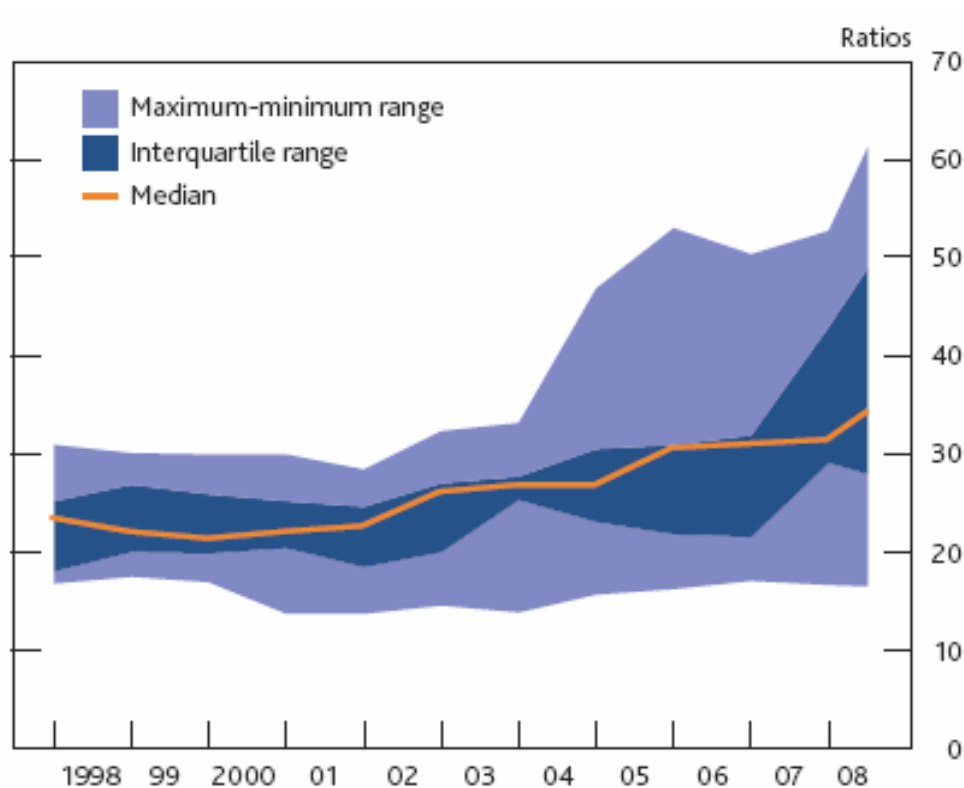
central bank may deal with an individual institution, rather than strict thresholds that cannot be broken — for the latter encourages instability, rather than opposing it.

5 LEVERAGE RATIO

Context

- 5.1 Leverage defines the degree to which assets are funded by debt, which in itself has numerous advantages and disadvantages. Debt allows households to smooth their consumption in the event of disruptions to their income and it may also help discipline managers of financial firms by reducing free cash flows and forcing them to return to the capital market to justify new investments. However, excess leverage makes the real economy more fragile in the face of adverse shocks as it acts as an amplifying mechanism, magnifying the effects of liquidity and solvency shocks on the wider economy. Excess leverage thus increases the sensitivity of banks' balance sheets to losses.
- 5.2 One of the underlying features of the crisis was the build up of excessive on- and off-balance sheet leverage in the banking system. Banks often built up excessive leverage whilst still showing strong risk-based capital ratios. During the most severe part of the crisis, the banking sector was forced by the market to reduce its leverage in a manner that amplified downward pressure on asset prices, further exacerbating the positive feedback loop between losses, declines in bank capital, and contraction in credit availability.
- 5.3 Therefore the Committee intends to introduce a leverage ratio as a supplement to the risk-based ratio of Basel II. The leverage ratio will be non-risk based and based on going concern regulatory capital. It is intended to:
- (a) Constrain the build up of leverage in the banking sector, helping avoid destabilising de-leveraging processes; and
 - (b) Reinforce the risk-based requirements.
- 5.4 To ensure comparability across jurisdictions, the leverage ratio will be harmonised internationally, fully adjusting for material differences in accounting, and will appropriately integrate off-balance sheet items that have also been a major source of leverage in the last crisis.
- 5.5 The aim of a leverage ratio is therefore to constrain banks' incentives to over-leverage during the upswing of a credit cycle. The following diagram illustrates the extent of leverage of the UK banking sector.

Figure 5.1: Major UK Banks' Leverage Ratios



Notes: Leverage ratio defined as total assets divided by total equity excluding minority interest.

Data excludes Nationwide.

Source: Bank of England (2009)

5.6 The main challenge is thus to introduce a simple (not too smart), non risk-based leverage ratio that ensures comparability across business models with inherently different asset exposures and across jurisdictions where the accounting treatment of such exposures varies. It is also important that any leverage limitation should not undermine good risk management practice.

Significance of Leverage in Past Crises

5.7 Another point to consider is the important role debt leverage has played in the run up to past financial crises. Reinhart and Rogoff (2008) construct a dataset of 66 countries that enables a broad examination of a variety of financial crises across 800 years. They conclude that domestic debt constituted an important part of government debt in most

countries over most of their existence. For their entire sample, domestically issued debt averages more than 50 per cent of total debt for most of the period.¹⁸

- 5.8 In their following book, Reinhart and Rogoff (2009) highlight a common theme to the extensive range of all financial crises: excessive debt accumulation, whether by the government, banks, corporations, or consumers, often poses greater systemic risks than it seems during a boom. For example, infusions of cash can make a government look as if it is providing greater growth to its economy than it really is, and private sector borrowing binges can inflate housing and stock prices far beyond their long-run sustainable levels and make banks seem more stable and profitable than they really are. These large-scale debt build ups pose risks because they make an economy vulnerable to crises of confidence, particularly when debt is short term and needs to be constantly refinanced.
- 5.9 Government and government-guaranteed debt (which, due to deposit insurance, often implicitly includes bank debt) is highlighted as being the most problematic, for it can accumulate massively and for long periods without being put to check by markets, especially where regulation prevents them from effectively doing so.
- 5.10 The authors show that in the run-up to the sub-prime crisis, standard indicators for the United States, including asset price inflation and rising leverage, exhibited nearly all the signs of a country on the verge of a severe financial crisis.¹⁹

Specific Issues

- 5.11 This section provides first an in-depth analysis of some of the most critical issues arising from the Basel proposals with regard to the introduction of a harmonised leverage ratio, and second, with these issues in mind, it assesses the potential impact of these proposals on the UK financial sector as well as the wider economy.

Table 5.1: Summary of Issues

Role for the leverage ratio: Backstop vs. Parallel Measure
Scope: Pillar 1 vs. Pillar 2
Calculation and Uncertainties

What is the proper role of a leverage ratio?

- 5.12 A broad issue to consider is the ultimate role of a leverage ratio. On the one hand it could be used as a parallel measure alongside risk-weighted capital requirements. In this case

¹⁸ Reinhart, Carmen M. and Rogoff, Kenneth S (2008) 'This Time it is Different: A Panoramic View of Eight Centuries of Financial Crises' NEBR Working Paper Series, Vol. w1388

¹⁹ Reinhart, Carmen M. and Rogoff, Kenneth S (2009) 'This Time is Different: Eight Centuries of Financial Folly', Princeton University Press

the leverage would be set at a level intended to bind on a material number of players - so that sometimes it would be the capital requirements and sometimes the leverage ratio that bound.

- 5.13 On the other hand, in order to limit risk it could be employed as a backstop measure. In this case the leverage rate would be set at a much higher level than if it were intended as a parallel measure, intended only to bind on a small number of players thereby constraining only a small number of eccentric or extreme cases.

Scope

- 5.14 A classic problem with across-the-board leverage ratios is that different business models intrinsically involve different levels of appropriate leverage, and it is by no means clear that high-leverage models are always of material regulatory concern.
- 5.15 The danger is that a leverage ratio eliminates perfectly good high-leverage business models whilst leaving incentives for low leverage business models to over-lever during a boom (or in exploitation of implicit bailout promises) untouched. Such a ratio really only serves a useful function if it can be applied to a sector where the optimal level of leverage is fairly uniform.
- 5.16 The question therefore rises whether a leverage ratio should be introduced at the Pillar 1 or Pillar 2 level, and if there is a conflict with the initial purpose of such a ratio. In addition, it is important for any leverage ratio first, to consider what is deemed “excessive” within the financial services sector and second, how the threshold might be reviewed over time to reflect changes in industry dynamics.
- 5.17 Another worthy consideration is whether it would be desirable for the provisions not to apply to institutions that are not systemically significant so as to encourage diversity of business models.
- 5.18 A significant view within the industry has concerns over the ability of the proposals to consider specifically market makers in risk intermediation (whereby risk is taken on in client servicing transactions and hedged with other counterparties) so that they are not penalised because hedging is ignored/disallowed. The industry believes netting should be recognised in the calculation of the leverage ratio as should financial collateral.
- 5.19 The industry believes the regulatory review is appropriate and supports the introduction of some form of leverage ratio as a supplementary measure, provided it is properly calibrated and designed to include fundamental risk management techniques. In this respect, the industry view is that a leverage ratio would need to form part of the Pillar 2 framework, as it is believed that Pillar 2 allows for sufficient flexibility to assess a firm's leverage in the context of its business model, structure, governance and risk management, and also provides a forum for robust dialogue between bank and its supervisor to address the methodological and calibration issues that will be specific to banks' business models. To facilitate this process, one important view within the industry favours of the introduction of a leverage ratio range (rather than a single number).

Calculation and Uncertainties

- 5.20 While the calculation of the leverage ratio, specifically the definition and scope of the assets which are included in the nominator and denominator, renders itself to multiple debates centred around technical specificities, two broad issues appear to stand out:
- (a) A leverage ratio would bring with itself legal uncertainty, not least as the measurement of leverage is not straightforward (even with clear definitions given different accounting frameworks) and market participants are likely to seek to game whatever interpretation regulatory authorities apply.
 - (b) Market uncertainty would ensue as the efficient level of leverage for banks is likely to vary over the quarterly period between informing investors of leverage levels. Anticipation of this possibility might lead banks to declare a leverage level at the outset of the quarterly period high enough to provide some flexibility over this period. Banks will be mindful, however, of the possibility that to set too high a level may result in a loss of investor confidence.

Netting

- 5.21 Current provisions envisage no netting of positions. This would appear to be of particular relevance to OTC derivatives activities, which could therefore, in the cases of some banks, result in very high levels of leverage. The industry view is that netting and other credit risk mitigation should be recognised in the calculation and recognised as prudent management techniques.
- 5.22 One potential alternative approach here might be to establish correlation thresholds beyond which netting would be permitted. This would be less relevant if the concept of the leverage ratio were to serve as a simple, “dumb” back-stop restriction, but might be of more relevance if leverage ratios served as part of a parallel assessment of capital adequacy.
- 5.23 If no-netting provisions were, in combination with other measures attempting to restrict the more innovative and specialised parts of the finance sector, to have the effect of curtailing growth in derivatives, that would have implications for London, since it is a very significant international player in the sector.

Further Remarks

- 5.24 A couple of further points to consider are:
- (a) One option would be to make the regulatory standards inter-dependent. In other words, a leverage ratio could be dependent upon the quantity of Tier 1 capital as well as the extent of liquidity held by an institution.

- 5.25 Our view is that a leverage ratio could serve a useful role as a Pillar II tool that discretion-exercising central banks could use as part of their overall assessment of capital adequacy, but would be less useful as a strict across-the-board restriction if intended to bind regularly. The sense that such a restriction might be needed is connected to a flawed concept of the proper ambition of regulatory capital requirements. These cannot serve as an always-and-everywhere rule. In practice, as evidenced in the recent financial crisis, judgement and discretion are vital, including judgement and discretion concerning circumstances under which firms will be permitted temporarily to have capital that is inadequate.
- 5.26 The notion of employing a leverage ratio as a last-resort backstop to limit the damage caused by regulatory get-arounds arises precisely *because* of the limited ability and appetite of regulatory authorities for exercising discretion. That core problem is the one to address.
- 5.27 We also believe that there could be a secondary, more limited, role for a Pillar 1 leverage ratio if properly integrated with a discretionary approach to regulation — that is to say, if the role of the Pillar 1 requirement were restricted to providing a guide as to the discretion-exercising prudential supervisor's likely stance, rather than as a universally-constraining rule.

6 COUNTERCYCLICAL BUFFERS

Context

- 6.1 Financial regulations, and Basel II in particular, directly affect the propensity for endogenous risk which in turn increases financial instability. By requiring financial institutions to employ risk models throughout the business and often directly control the type of model used, as well as requiring banks to adhere to a minimum risk-weighted level of capital, means that their behaviour is harmonised. There is the danger that in times of uncertainty all banks' risk models indicate higher risk, thus motivating banks to sell risky assets and buy safe assets. This occurring on a large scale is likely to push periods of uncertainty into periods of crisis.²⁰
- 6.2 A common response to the financial crisis has been a call for enhanced macro-prudential regulation to supplement the micro-prudential supervision of individual firms with interventions concerned with the stability of the system as a whole.²¹ This has resulted in the calls for counter-cyclical buffers²² (e.g. by the G20) which has motivated the work of the Basel Committee, and there have also been calls for partial (or even complete) decoupling of the calculation of capital and mark-to-market valuation. The design of the macro-prudential framework needs to be considered sympathetically alongside micro-prudential regulation. Fundamentally, this is to avoid the unnecessary costs, to firms and / or to the economy, of duplication in any redefinition of what constitutes capital adequacy.
- 6.3 The trade-off between greater risk sensitivity and cyclicity was recognised by the Committee during the design of Basel II, and it now proposes to introduce more measures to promote the build-up of capital buffers in good times that can be drawn upon in periods of financial stress. These include proposals for capital conservation (whereby banks will be required to build up their capital reserves if they fall within a buffer range by reducing discretionary distributions of earnings), and proposals for increasing these buffer ranges in relation to periods of excessive credit growth.
- 6.4 In addition, the Committee is promoting a more forward-looking provisioning based on expected losses, which captures actual losses more transparently and is also less procyclical than the current 'incurred loss' provisioning model.

²⁰ Benink, Danielsson and Jonsson (2008) 'On the role of regulatory banking capital' *Financial Markets, Institutions and Instruments* Vol 17, No.1, pp85-96

²¹ For instance, the Bank of England has noted that "Effective macroprudential policy instruments are an important missing ingredient from the current policymaking toolkit" (Bank of England, November 2009, Discussion Paper on "The role of macroprudential regulation")

²² A particular (but not exclusive) focus of macro-prudential regulation is the impact of the economic cycle. See, for example, Professor Avinash Persaud's July 2009 article on "Macro-Prudential Regulation" for the World Bank for a discussion of the object of macro-prudential regulation both in the context of the economic cycle and beyond it.

CCCCs vs Dynamic Provisioning²³

Countercyclical Capital Controls

- 6.5 Under this system, different levels of bank capital are mandated at different points in the economic cycle. When the economic environment is strong returns on capital are high, bad loan losses are low and there are strong incentives for banks to grow their loan books. To dampen procyclical behaviour banks would therefore be expected to hold higher levels of capital. Conversely, during periods of economic weakness banks would be allowed to run lower capital ratios to encourage and support lending to the economy.
- 6.6 It is of interest to note that manipulating the ratio of capital to assets CCCCs is a mechanism influencing the supply of “broad money” to the economy. This is because the higher the capital requirement the fewer assets a bank can hold, as these “assets” are in effect loans to the wider economy. This higher requirement then leads to a reduction of the supply of money.
- 6.7 This means that a counter-cyclical capital control might be employed as a tool of monetary policy, rather than regulatory policy.

Dynamic Provisioning

- 6.8 Under dynamic provisioning, banks use a statistical method to estimate long run expected losses within a portfolio. When losses are less than their long run average, a buffer is built up. These buffers can be used in an economic downturn to meet actual losses.
- 6.9 In a DP system, banks’ incomes are not measured net of actual losses (as currently) but net of contributions to the expected loss provisions. Expected losses are charged against the current year’s P&L and unused provisions would be unwound if and when a portfolio matures. DP is essentially an accounting principle that recognises that actual losses will differ from expected losses on a year by year basis. If actual losses are less than expected losses in periods of growth this leads to procyclicality as bankers become overconfident and relax lending practices.
- 6.10 Generally, the level of provisioning on this basis would be less subject to sharp swings stemming from the strength of economic activity than the current approach. Loan losses would impinge on banks’ profit and loss accounts and balance sheets more smoothly than at present, because of the primacy of expected, rather than actual, losses in a dynamic provisioning approach.

²³ This subsection is based closely upon material in Policy Exchange (2009) ‘Financial instability: are counter cyclical capital controls the answer?’

- 6.11 Dynamic provisioning thus builds up a buffer (reserve) to cover expected loss from the time a loan is taken on. The reserve builds up in any year in which actual losses fell short of expected losses, while in years in which losses exceeded the expected level the reserve would be drawn down.

Lessons from Spain

- 6.12 In Spain dynamic provisions make up 10 per cent of bank's net operating income on average and so understandably were not popular with banks. However by the end of 2007 total accumulated provisions amounted to 1.3 per cent of the total consolidated assets of Spanish deposit institutions; dynamic provisions had contributed to the build up of this buffer. These assets are currently being drawn down during the banking downturn. While they did not prevent the banking decline in Spain, a World Bank Group report highlights that "dynamic provisions have contributed to the stability of the Spanish financial system and allowed Spanish banks to deal with the crisis from a much better starting point". They did not, however, tame the lending cycle in the build up to the global banking crisis.

- 6.13 The Spanish example has two lessons for CCCCs.

- (a) First, that counter cyclical policies can be successfully implemented without international agreement. While it is true that the Basel Committee is discussing the issue of CCCCs, the experience from Spain highlights that it does not follow that without international agreement CCCCs are unfeasible. Despite initial reluctance from Spain's banks DP did not make their financial sector uncompetitive; in fact, banks like Santander have come out of the crisis in a much stronger competitive position. The loss in competitiveness from having a more regulated banking system can sometimes be offset by the benefits of having a system that is more secure than competitors'.
- (b) The second lesson is that counter cyclical policies can work to limit the effect of a financial downturn. Although DP did not work in Spain to control the lending cycle, the Geneva Report confidently predicts that CCCCs would be effective: "we do not think that [DPs] quantitative effect has been to moderate the credit cycle by as much as our mechanism could". In fact the report goes on to describe DP as "counter-cyclicallite".

Industry view on dynamic provisioning

- 6.14 We note that the industry is not supportive of dynamic provisioning but rather views the essential starting point as being the adoption of expected loss provisioning on an over the life of the portfolio basis within IFRS; and believes that further perceived need for a counter cyclical buffer over and above this should firstly be reviewed as part of the existing framework.

6.15

Specific Issues

Table 6.1: Summary of Issues

Effectiveness of counter cycle capital controls
Implications for capital adequacy calculations
Scope: Should counter cycle capital controls be in Pillar 1 or Pillar 2?
Development of a provisioning approach
How will the timing and range of the cycles be determined

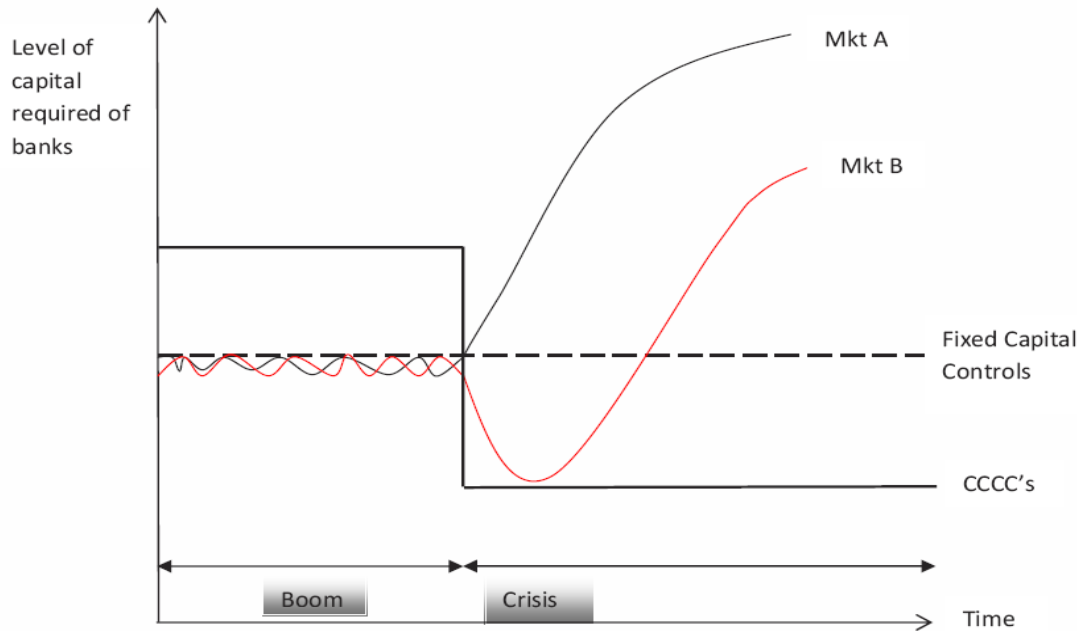
Effectiveness of counter cycle capital controls²⁴

Ability of regulator to control cyclical

- 6.16 The proposal for capital conservation buffers to increase in periods of excessive credit growth represent a counter cycle capital control measure. However, there is some debate as to the ability of a regulator to effectively act in a counter cyclical way in the face of investor responses in a time of financial stress or crisis.
- 6.17 Figure 6.1 presents a two-sided argument for the effectiveness of counter cycle capital controls.

²⁴ The actual Basel proposals do not explicitly mention CCCCs in the usual way they are understood, instead referring only to capital conservation buffers. We presume they currently envisage there always being a minimum positive level of buffer, no matter if banks are in a boom or a bust. Thus the discussion below relates to a notional ideal counter-cyclical capital control.

Figure 6.1: Stylized representation of capital required of banks by regulators and the Market



Source: Policy Exchange (2009)

- 6.18 There is an argument that counter cycle capital controls will in effect be just 'higher' capital controls. If markets require banks to hold more capital during crisis times (represented by Mkt A), then banks will not be able to exploit the lower requirements set by the counter cycle capital controls (CCCCs), and will be forced to hold higher capital in the good times and the bad by the controls and the market respectively. Alternatively, one may argue that there may be a period just after a crisis hits when the market (represented by Mkt B) will require less capital of firms than, say, fixed capital controls. In this case the lower capital requirements of the counter cycle rules will benefit firms.
- 6.19 If the situation after a crisis, and the market's response, is characterised in reality by 'Mkt A', then any counter cyclical capital control may result in a significant increase in the cost of banking throughout the cycle without any commensurate increase in the ability of regulators to act in a counter cyclical fashion and provide banks with relief in periods of financial stress.

Restriction on distribution of earnings

- 6.20 The capital conservation proposals seek to impose a buffer range above the regulatory minimum capital requirements and constrain banks' capital distributions when capital levels fall within this range. The restrictions on distributions would be flexible (start out low and increase as capital levels approach the minimum requirement) so as not to effectively impose a new minimum requirement.

- 6.21 Both the capital conservation proposals, and the counter cyclical measures, may cause concern among investors as to the returns they are likely to receive, both as a result of potentially restricted distributions, and due to the fact that banks may not be able to exploit boom periods as fully as before. This may dampen investor confidence and restrict growth.
- 6.22 The European Commission has questioned the effectiveness of the proposed dual structure of the capital buffers. In particular, they wondered whether the conservation buffer and the counter-cyclical buffer, separately and taken together, would enhance the resilience of the banking sector when going into an economic downturn and ensuring the flow of bank credit to the “real economy” throughout the economic cycle. We believe that to achieve their desired goals, there needs to be a clearer distinction between the average and marginal capital requirement.
- 6.23 Debate has occurred over what the appropriate timing should be for the restriction to capital distributions to start if they should breach the capital buffer targets. We believe that prompt corrective action would mean that they begin immediately. We do believe however, that supervisory discretion should be implemented concerning these time limits due to the fact that a broad international scheme would not be able to account for a range of economies currently at different cyclical states.

Implications for capital adequacy calculations

Interactions with fair value accounting

- 6.24 The banking industry has known concerns about the precise method proposed by the IASB for moving towards expected loss provisioning but is supportive in concept of a more forward-looking approach.
- 6.25 An interesting question for the Basel Committee to reflect upon is whether early identification and recognition of credit losses would in reality promote adequate and forward looking provisioning.

Incentives for sound provisioning practices

- 6.26 To encourage banks to make additional loan loss provisions to meet expected losses, the Basel Committee is proposing that any shortfall in the total loan loss provisioning relative to the expected future losses be fully deducted from Tier 1 capital, thus reducing the incentive on banks to under-provision.
- 6.27 However, this would add an element of uncertainty to capital adequacy calculations as the expected loss determination may be subject to rapid change based on market conditions.

Should counter cycle capital controls be in Pillar 1 or Pillar 2?

Determination of the timing and range of cycles

- 6.28 It will be important to clarify who determines the timing of cycles and the choice of indicators to distinguish the 'good' times from the 'bad'. There is a strong case for keeping such power at a national level.²⁵ First, asset bubbles (and hence cycles) do not occur uniformly across countries and thus the setting of capital requirements at a global level will not adequately address the cycles in different countries and regions. Second, the costs of bank bailouts during financial crises are borne largely by governments individually. Third, the experience of dynamic provision in Spain suggests that such controls are feasible even without international agreement.²⁶ It would also be important to identify clearly the indicators that will be used to distinguish between 'good' and 'bad' times. Possibilities include gross domestic product and credit growth — though these would strongly suggest that the tool were macroeconomic rather than macroprudential.
- 6.29 Finally, the proposed changes necessitate a clear decision on whether capital requirements will be changed in different economic cycles or if different types of assets should instead be risk-weighted to fulfil these requirements. The risk-weighting of asset types could be effective if only certain sectors are experiencing a boom, as this could prevent the perverse reaction by banks of cutting lending to 'non-boom' sectors of the economy whilst continuing to lend on overly relaxed terms to the 'boom' sectors.

Industry view

- 6.30 The industry view notes that procyclicality has a number of sources and there are many interrelated proposals for how it could be addressed. The industry advises that care should be taken to understand the full impact of each proposal and time taken to develop a package which works as a whole. Such consideration would include a review of existing regulatory tools, some of which may already achieve the desired aims, to avoid duplication and double counting. The analysis would consider the trade-offs which the adoption of each would imply in terms of the impact on the real economy, financial institutions and financial stability. The industry believes that it is also important to recognise that some measures considered in the Consultation, such as the elimination from capital of deferred tax, pension fund deficits, counterparty risk changes etc. if adopted, could potentially increase procyclicality. The industry view is that there should be two core parts to the regime to address procyclicality and that it is necessary to keep a clear distinction between the accounting and regulatory capital framework.

²⁵ Policy Exchange (2009) 'Financial instability: are counter cyclical capital controls the answer?'

²⁶ Despite initial reluctance from Spain's banks dynamic provisioning did not make their financial sector uncompetitive, and in fact some banks like Santander have come out of the crisis in a much stronger competitive position.

Further Remarks

- 6.31 Counter-cyclical buffers, including capital requirements that may be reduced in times of crisis, give financial authorities an extra intervention tool, increasing their ability to respond to potential crisis. In a number of jurisdictions, including the UK, these tools are already now employed.
- 6.32 As identified in the context, the Committee is now introducing more measures to promote the build-up of capital buffers that can be drawn upon in periods of stress. The proposed countercyclical structure is designed to stabilise financial bubbles and dampen downturns, but must make further provisions on how to distinguish timelines and macro variables.
- 6.33 There are both merits and drawbacks to capital buffers and through-the-cycle provisioning for expected losses with respect to minimising procyclical effects of current EU banking regulation. It is unclear whether these can be determined in advance due to the lack of available information about the proposals such as implementation and designed differentiation techniques.

7 TRANSITIONAL ISSUES

- 7.1 The Proposals were initially envisaged as entering into force from 2012. The question arises whether this timetable is realistic, and whether it becomes more important to stick to it if there were to be a double dip, or more important to extend the period of transition.
- 7.2 In consideration of the feasibility of this timetable there are various conflicting factors to be borne in mind.
- 7.3 The FSA finds²⁷ that the considerable majority of adjustment in bank capital ratios in response to changes capital requirements occurs over a timescale of one to two years.²⁸ This might naturally be taken as implying that, under normal conditions, banks respond to shocks to capital fairly rapidly. This might be seen as suggesting that the impact of the events of 2007/8 should have been absorbed fairly completely by 2012.
- 7.4 The FSA finds²⁹ that risk-weighted assets and regulatory capital holdings each change in about the same proportion in response to changes in capital requirements. We might thus expect that, if there is a material increase in capital requirements biting in 2012, then in the two years around that, there would be likely to be a material reduction in loans (compared to counterfactual) as well as an increase in regulatory capital holdings (i.e. amounts of capital as opposed to ratios).
- 7.5 Large parts of the UK banking sector remain significantly dependent upon government support. It seems unlikely, at this stage, that this support will have been withdrawn by 2012. Indeed, it has recently been noted³⁰ that the UK's banks have to find £440bn of loans and finance between now and 2012 to replace maturing debt.
- 7.6 Many commentators regard the UK economy as vulnerable to the risk of double dip, with the possibility that further bad debts are exposed. Even in the event that matters do not deteriorate further, it is believed that restoring the supply of loans will be a key to recovery being robust.
- 7.7 On the other hand, it is possible that, even if there is a modest double dip during 2010, recovery in 2011 could be robust. The Bank of England and the UK Treasury estimate growth at some 3-3.5 per cent. UK households may need to de-leverage further (Europe Economics has previously estimated that about half the de-leveraging required by UK households is already complete) and indeed savings rates spiked up to 8.6 per cent over the eighteen months to third quarter 2009.³¹

²⁷ Occasional Paper 36

²⁸ See *Ibid*, p35 Panel A

²⁹ *Ibid*, p35 Panel A

³⁰ FSA Financial Risk Outlook, March 2010, http://www.fsa.gov.uk/pubs/plan/financial_risk_outlook_2010.pdf

³¹ Source, Table 1.07SA, *Economic and Labour Market Review*, March 2010, National statistics

- 7.8 In contrast, corporate sector balance sheets have become much healthier much faster, and if growth along the lines forecast by the Treasury and Bank of England were to be achieved, it is plausible that 2011 could be a bumper year for investment, presumably associated with a considerable expansion in business loans.

Standard view

- 7.9 The standard view is that the 2012 timetable is no longer feasible and that the period of transition should be extended, reflecting ongoing challenges in the banking sector and the risk of threatening economic recovery by bearing down upon lending.

Our view

- 7.10 Our view is that, 2012 might yet be a feasible date if the correct (and relatively modest) degree of increase in capital requirements is implemented and a number of the other modifications to the current proposals that we favour were introduced.³² If capital requirements are to be extended beyond what is economically valuable — driven perhaps by the political need to be seen to be harsh on the banking sector and to reduce the risk of future bailouts — then the case for a more extended transition is stronger.
- 7.11 In particular were capital requirements to be raised very significantly, that would be likely to (a) curtail loans very significantly at a point in the economic cycle (especially 2011-2012) when an increase in available credit would be vital to the delivery of a robust recovery; and (b) act as a barrier to entry for new banks that might otherwise promote greater competition and would also serve to increase the available sources of lending, in particular by replacing the lending by foreign institutions in the UK that has been withdrawn during the crisis.
- 7.12 The sequencing of the introduction of changes might also be significant. For example, it might be appropriate to produce final figures for certain of the innovative changes to buffers only after increases to base capital requirements have been in place for long enough to bed in and to allow more informative quantitative estimations of the effects of buffers.

³² In particular, our view that a longer transition period is not required is also contingent on other parts of our recommendations being accepted, in particular that capital buffer rises are not large, that they are set for the medium term, that Pillar 2 is employed to address nearer-term issues, and that discretion is granted to national authorities to treat temporary under-shooting of requirements with forbearance.

8 CONCLUSIONS AND RECOMMENDATIONS

8.1 The specific impacts of the Basel Proposals will depend very much upon the specific numbers chosen — particularly in respect of capital. Our overall view is as follows:

- (a) The most important measures to introduce are those relating to adequate resolution regimes, to liquidity, and to the structure of prudential supervision. Thinking concerning how to improve resolution regimes is still very much in development. The Proposals concerning liquidity represent some progress, but the key to making these work will be to pair them properly with central bank supervisory arrangements. For example, the Riksbank should have prudential oversight of all systemically significant Swedish institutions that it might be called upon to provide with last resort lending.³³ Without the proper pairing of prudential oversight and the lender of last resort function, other measures to promote liquidity are always going to be of limited relevance.
- (b) There is a case for changing some aspects of capital requirements — in particular for increasing the focus upon and significance and levels of common equity and reserves. But we caution that the values chosen for overall Tier 1 capital should not be conceived of as devices for preventing all bank “failures” — which we define as situations in which bondholders make losses. Fractional reserve banking is an intrinsically risky activity, and the disciplines imposed by risk-taking bondholders are very important to the efficient functioning of companies — for example, through the disciplining of remuneration schemes encouraging excessive risk-taking. No bank should ever be considered too big to fail, too connected to fail, too complex to fail, and it is hubris to imagine that regulators can, efficiently and effectively, regulate banks in ways that would properly mirror the disciplines imposed by the Market. Disorderly failure would, of course, undermine trust, but this point serves only to emphasize, again, the importance of improving resolution processes as indicated in (a).
- (c) Again, the case for considerably increasing overall regulatory capital as a percentage of risk-weighted assets, perhaps even doubling the amount, seems to us ill-founded. Tier 2 capital appears to have the function of serving as a buffer to protect depositors in the event of a bank's failing. But the proper way to deliver such a buffer would be to make depositors preferred creditors. In practice, no-one believes that any depositor will be allowed to lose material sums of money ahead of bondholders. Deposit insurance schemes exist for just this reason. But, since the taxpayer stands behind such schemes, insofar as any bondholders actually rank ahead of depositors, the effect of deposit insurance schemes versus a preferred creditors regime for depositors is simply to provide a government subsidy for that set of high-ranking bondholders. It would be better to acknowledge this reality and simply to make depositors into preferred creditors, at the same time abolishing the “gone concern” tier

³³ As above, we note that our view is that banks should be subject to prudential supervision from whatever is their lender of last resort, rather than in whatever jurisdiction they are trading.

of regulatory capital altogether. (Obviously this would entail an extended transition period.)

- (d) In choosing its numbers, we believe that the Basel Committee should pay close attention to the possibility that many banks will be tending to over-provide capital in the short-term. We would urge the committee against “surfing the wave” of market-driven capital increases, and instead restrict increases to those that would be valuable over the medium-term and relevant to the next crisis, not the last. It should also reflect the fact that, even under existing frameworks, there have been significant changes already introduced.
- (e) We believe that counter-cyclical buffers have a potential role. They could serve as instruments of monetary policy, exercised by central banks — though study of the interaction with existing monetary policy and macroprudential tools will be important.³⁴ In addition, it could be of value to have a Pillar 1 set of modest buffers, established on a coarse-grained basis indicating different risks. For example, one might envisage something along the lines of a set of warning lights — green would mean the buffer were set at its lowest level (perhaps a quarter to a half a percent of RWA), amber (perhaps half to one per cent) and red (perhaps one to three per cent) would involve jumps to higher levels, and dark red would mean the buffer were set to zero (since buffers are there to prevent a crisis, and are unhelpful once a crisis has actually begun).
- (f) We are unconvinced that there is a case yet made for pursuing significant further deepening of international coordination of banking regulation. Indeed, we believe it quite likely that greater exercise of national discretion (even if only in the form of using that discretion already envisaged under Basel II and employed fully by only a few countries such as Spain and Canada) is the appropriate path forwards. (Indeed, the very fact that certain of the provisions here reflect lessons learned from the differences between regulation in Spain, Canada and elsewhere, illustrates some of the value of regulatory competition.)
- (g) We believe that UK banks will be likely to respond to these measures both by increasing their capital holdings (in the short-term mainly by recycling profits, reducing dividends, but from 2011 onwards opportunities for rights issues may improve) and by reducing their risk-weighted assets (which will include a significant component of reduction in loans). If increases in capital requirements on the scale envisaged by some commentators were enacted, that would clearly have a serious short-term impact on loans in the UK, and could imperil robust economic recovery. If large increases in capital requirements are really envisaged, there should be an extended period of transition. If, on the other hand, increases are more modest and a number

³⁴ In a number of jurisdictions, including the UK, buffers are already in operation.

of the other modifications that we have recommended to current proposals were introduced, then the current implementation schedule becomes much more plausible.

- (h) Over the longer term, we believe that increased capital requirements will reduce the riskiness of the sector, (appropriately) reducing returns on equity. But improved resolution regimes and improved liquidity requirements might, if effective, increase the ability of governments in the next crisis to allow more institutions to fail. This would (appropriately) increase the cost of capital in the sector, since the implicit government bailout guarantee would be reduced. This latter risk-increasing effect would be likely to dominate the effect of increased capital requirements.
- (i) We believe that London's competitive position in the banking sector is currently under threat. But this threat does not mainly come from the Basel proposals, even in their current form. The Basel proposals neither solve that problem nor materially add to it.

APPENDIX 1: UNDERSTANDING THE FINANCIAL CRISIS

- A1.1 Many excellent in-depth analyses of the factors leading up to the credit crunch have been written, and we have no intention of attempting to duplicate these here.³⁵ However, because the credit crunch is so central to the rationale produced by the Commission for this proposed Directive and to the Commission's view of the potentially beneficial impacts of the Directive, it is necessary for us to consider at least stylised alternative characterisations.
- A1.2 There has been considerable divergence in the fundamental basis for accounting for these events, even in official reports, and even between official reports within the same country. For example, in the UK the Financial Services Authority's Turner Review considers flaws in rationality central to its analysis, devoting a major and pivotal section of its report (section 1.4) to rejecting the entire structure of modern finance theory. In contrast, the UK Treasury's White Paper, *Reforming financial markets*³⁶, insists that the behaviour generating financial market booms and crashes is rational.
- A1.3 Since there is no consensus on this point, we therefore, in what follows, offer two stylised characterisations: a rationality-based account, building on the modern theory of finance; and an account that rejects rationality and all the key tenets of modern finance theory.

Drivers of Volatility

- A1.4 AIF, and in particular hedge funds as the most highly leveraged institutions, have often been alleged to have been central to much of the financial market volatility in the past decade. For example, the near-collapse of Long Term Capital Management (LTCM) in the US in 1998 raised concerns over the systemic risks posed by highly leveraged institutions, and hedge funds were implicated by many for the financial instability in Hong Kong during the East Asia crisis.
- A1.5 The European Commission uses this argument of the systemic risk created by AIFM as one of the core reasons underpinning the proposals to regulate the industry. In the recent financial crisis the Commission attributes the instability at least in part to the high degree of leverage held by many AIF, particularly hedge funds. We shall discuss the recent crisis in more detail below, but we first note that - even outside periods of crisis - one would expect financial markets to exhibit a certain degree of volatility. Indeed, having some

³⁵ An excellent example from early in the crisis (before the collapse of Fannie Mae and Freddie Mac, the consequent failure of Lehman Brothers, and the events that flowed from this) is Alexander, K., Eatwell, J., Persaud, A. and Reoch, R. (2007) "Financial supervision and crisis management in the EU", IP/A/ECON/IC/2007-069, European Parliament Policy Department Economic and Scientific Policy, December 2007.

³⁶ http://www.hm-treasury.gov.uk/d/reforming_financial_markets080709.pdf — see paragraph 3.46: "markets can be prone to collective action problems, which can result for example in asset prices deviating from their fundamental values because it is not in the rational self-interest of individual market participants to bet against the market for a long period".

volatility is efficient, as it reflects the ability of agents to experiment, analyse, and update their views, and also to innovate under conditions of brute uncertainty.

A1.6 Specific drivers of natural volatility in asset prices include:

A1.7 Effects of information or interpretation updating, such as:

- new general information releases (e.g. by national statistical authorities);
- new policy changes (e.g. interest rates, fiscal policy, regulation, direct interventions such as bailouts or quantitative easing);
- new analysis (as part of the process of delivering semi-strong efficiency);
- new information revealed in market actions - this can take the form of things changing (e.g. a new company entering the market); or of things staying the same (e.g. when people keep trading rather than stop trading [as one might have expected], that can cause us to update our opinions about what they know [as per the example in the second half of *The Role and Regulation of Short Selling*]).

A1.8 In all cases above, do note that there can be updating of interpretations, as well as of information.

A1.9 Effects of speculation, such as:

- signalling effects, wherein agents known often to be well-informed can move markets by their observed trades even on occasions when they are not, in fact, any better informed than the Market as a whole;
- volume effects, where in thin, specialised markets without other agents ready and willing to enter to take up arbitrage opportunities, large trades can move prices by sheer volume.

A1.10 A straightforward consequence would be, for example, that if market participants had under-estimated the risks associated with some product (e.g. a collateralised debt obligation [CDO]) and then either some new data (e.g. showing house prices falling), some new market event (e.g. a firm known to have lots of CDOs going bust) or even simply trade continuing as it had when one might have expected prices to rise (say) all might cause those market participants to update their view of the risks of their CDOs (e.g. by raising their risk assessments) and hence pay less, causing the price of such CDOs to fall.

A1.11 There is therefore nothing intrinsically malfunctioning about market volatility. Markets can swing wildly because market processes are working well, not only because they are failing to work well. Moreover, companies going bust is an integral part of capitalism, and is not in and of itself an indication of capitalism failing. Investment companies that take risks are intrinsically likely to face occasional period of loss — that follows logically from their being risk-taking endeavours. That risk-taking investors sometimes lose money does not itself indicate that markets are malfunctioning.

A1.12 However, just because volatility can (and should) arise without market or regulatory failure does not mean that there were not also market and regulatory failings.

Stylised Characterisation of the Crisis: Rationality-Based Account

A1.13 A consequence of modern finance theory is that market fluctuations fundamentally reflect changed market views about expected returns and expected risks. Shortly, it will become important to understand that central role which hedge funds and related niche participants could in principle have in generating volatility — a contribution far in excess of their size. But first let us focus on the story at a higher level. Thus, our Fundamental Factor is: initial over-estimation of returns and / or underestimation of risks, followed by a subsequent downgrading in view.

A1.14 Since modern finance theory attributes all market booms and busts to this fundamental source, all of our other factors should be understood as contributors to this first factor.

A1.15 Our first contributory factor is financial innovation. When new innovations arise, the expected returns from them and the risks associated with them can be difficult to assess. Often this leads to their being under-valued initially (the personal computer may well be an instance of this). Subsequent up-grading of expectations results in increased growth and asset valuations. Occasionally new innovations are significantly over-valued initially. Classic examples of this may include the railways, electricity, radio, and dotcom companies. When expectations are down-graded, there are asset price crashes and collapses of a number of the companies that over-participated on the basis of over-optimism.

A1.16 The 2000s saw very considerable growth in the participation in various financial market innovations, particularly those associated with securitisation and natural partners thereof such as growth in wholesale money markets. (Others included the growth in private equity and uses of structured debt related to this.) It is natural that in periods of transition with growing use of new innovations, there will be increased leverage. If expected returns and risks have been assessed accurately, some increase in leverage is an appropriate and efficient symptom of transition.

A1.17 However, it now seems very likely that, as with certain other new innovations, there was over-participation in these financial market innovations. With a downgrading in expectations and an upgrading in risk assessments, asset prices fell and some of those companies that had over-participated came close to collapse.

A1.18 It is certainly plausible (and consistent with modern finance theory, albeit implying the need to develop certain models further) that an element within this contributory factor might have been over-reliance, in financial market analysis, on particular statistical modelling assumptions (e.g. the risk models in option theory) and specific assumptions about how the market evaluates risk (e.g. the assumption that skew is irrelevant) which may break down under extreme circumstances exposed by these new innovations.

- A1.19 Our second contributory factor is: increased dependence of regulatory badging, combined with the international coordination of regulation, and with mistakes in that regulation. Over the past 25 years, a core concept in regulation has been the idea that ordinary retail capital-providers (purchasers of retail financial products such as mortgages; ordinary depositors; ordinary small shareholders) are not competent to conduct their own monitoring of the robustness of financial institutions; or, if they are so competent, that they lack incentives to provide adequate monitoring, preferring instead to rely on the monitoring done by others. Instead of diversified individual assessments, financial robustness checking came to be seen as the responsibility of financial regulators.
- A1.20 At the same time, financial regulation came to be enormously coordinated, internationally, through devices such as the Basel Accords and the European Union Single Market Programme.
- A1.21 Regulators conducted their own supervisory analysis and risk assessment, but also made use of a small number of ratings agencies.
- A1.22 The net result was that the number and methods of financial robustness analysis were very small and very similar, and the corresponding requirements imposed on financial companies (such as capital requirements) were again done in broadly the same way.
- A1.23 A consequence was that when an event occurred which defeated the risk analysis of this narrow set of actors and methods — a set of new innovations that models based on past data could not properly risk-model, engaged in by the market on a scale that defeated analysis of spillover effects — when this narrow set of actors got it wrong, they got it wrong for everybody. Risk was systemically coordinated nationally by financial regulators and coordinated internationally by international regulation and ratings agencies, as well as the internationalised financial linkages which these international regulations and agencies had facilitated.
- A1.24 Two issues that arise are: (a) whether the trade-off in the replacement of *caveat emptor* by regulatory badging (the addressing of asymmetric information and free-riding problems at the expense of increased systemic coordination of errors) is really attractive; and (b) whether the reduction in opportunities for regulatory arbitrage through international coordination of financial regulation is really worth the increase in international coordination of financial crises which it entails.
- A1.25 A corollary of our second factor is our third contributory factor: weak internal risk management and poorly-constructed remuneration incentives. Once the key final providers of capital — the purchasers of retail financial products, depositors, shareholders, etc. — did not take responsibility for assessment of the risk-taking of institutions (regulatory authorities) it became necessary for regulatory agencies to take a closer interest in these. Otherwise, there was moral hazard — workers gained on the upside from bonuses if their risks turned out well, but had only limited downside losses if their risks turned out badly. The key discipliners of downside risk in a market setting

would be the providers of fixed charge loans — depositors and bondholders. But these were not monitored under the system as it evolved.

- A1.26 This issue appears not to have been understood by regulators.
- A1.27 Our fourth factor is regulatory get-arounds. Regulation needs to specify activities that are forbidden or controlled. But there is the incentive for firms to devise ways to restructure their activities — either by adapting what is done or adapting who does it — so as to get around restrictive regulations. This appears to have happened in the 2000s, when financial innovations allowed extensive use of off-balance sheet activities and the use of relatively high-risk AAA-rated investment instruments in liquidity silos.
- A1.28 Regulatory hubris is a constant danger. A classic error is to attempt to regulate away an activity, and instead merely chase it outside the regulatory net to somewhere it does even more harm than if it had been left alone in the first place.
- A1.29 Our fifth factor is speculation driving uninformative volatility in prices. As explained previously, under the standard theory, markets cannot be continuously semi-strong efficient if analysis is costly. There must therefore be processes whereby prices achieve semi-strong efficiency (if they do achieve it). Since agents differ in their analytical skills, an obvious process is for the most skilled agents to do analysis, then to trade on the basis of their informational advantage (e.g. buying if their analysis suggests matters are better than expected, selling if they are worse) until the new information is fully reflected in prices.
- A1.30 But if agents have a reputation for being well-informed — as is certainly the case in practice for some hedge funds and other speculators — they have clear incentives to exploit their reputation to create market movements even in cases when they do not have any informational or interpretational advantage over the rest of the market. (They can create movements in prices just by it being known that they are trading — we are not here referring to market manipulation by spreading false rumours or the like.) There is nothing *per se* improper about moving prices by disclosing trading. But a consequence is that price movements will not always reflect changes in the true, fully-interpreted data available. Sometimes it will just be that speculators have become confused by following the trades of those with strong reputations even those who do not know anything new.³⁷
- A1.31 This concept is a variant of “rational herding” behaviour, whereby many agents will find it advantageous to copy the behaviour of others rather than engage in their own independent analysis.

³⁷ In Lilico, A. (2002), “The Role and Regulation of Short Selling”, Europe Economics working paper no 2002.3., the author demonstrates this feature (uninformative volatility) more formally, but goes on to argue that the gains from permitting more informed agents to go short or long increases pricing efficiency, despite inevitably generating this volatility property. See <http://www.eer.co.uk/download/eeshort.pdf>

A1.32 Our sixth factor is weaknesses in the monetary policy regime leading to excessively-low interest rates. We shall not pursue this question further here, which raises many technical issues which go beyond the scope of this study.

A1.33 Our seventh factor is the belief that governments would intervene in various ways to limit downside risk. The most obvious is the view that governments would not allow house prices to fall in an environment in which political popularity was intimately connected to the rise and fall of house prices — governments taking the credit when prices rose and the blame when they fell. An implication of this is that lenders would be willing to provide excessive credit for mortgages, and products constructed from mortgages, such as collateralised mortgage obligations, and would be perceived as having reduced downside risk.

A1.34 Related to this is the idea that governments were expected to bail out financial institutions, in particular by sparing depositors and bondholders. In a recent paper, *Banking on the State*³⁸, Piergiorgio Alessandri and Andrew Haldane identify five ways in which state safety nets for financial institutions grant opportunities to banks in particular to game the system:

- higher leverage (increasing upside equity risk at the expense of downside bonds and depositor risk – but these latter risks are insured by the state);
- higher trading assets (again, increasing exposure to asset price fluctuations, with upside risks taken by equity but downside risk by the state);
- business line diversification (making banks collectively more similar, increasing systemic risk and thereby increasing the opportunity to take advantage of state bailouts);
- high default assets (the authors argue that in the US, where there were leverage restrictions, banks instead pursued higher-default-risk loans to increase upside risk – this is an important point to note concerning the limitations of formulaic leverage rules);
- out of the money options (a more subtle variant of high-risk lending, pursued by AIG).

A1.35 We might ourselves add to this list that banks will have incentives to over-merge in order to attempt to become “too big to fail”. Shifts in merger rules over recent decades away from broad and vague “public interest” tests towards stricter focus upon significant market power may have had the unforeseen side-effect of removing or reducing consideration of

³⁸ <http://www.bankofengland.co.uk/publications/speeches/2009/speech409.pdf>

systemic risk created by mergers. This is of particular interest in the finance sector (though obviously in principle of relevance across all merger rules).

A1.36 Allesandri & Haldane remark upon what they see as the lack of role of the hedge fund sector in the financial crisis (they call it “the dog that has not barked”). They suggest that this is because of the industrial structure of the sector, with a large number of relatively small players; low concentration; high attrition rates (high rates of entry and exit of firms); and the “absence” of implicit promises of state support.³⁹ They also note that, *“despite their moniker of “highly-leveraged institutions”, most hedge funds today operate with leverage less than a tenth that of the largest global banks”*.

A1.37 We do not contend that the seven factors here represent a comprehensive or detailed explanation of the financial crisis. But we do believe that it is useful to understand something of how such a crisis might be accounted for within the broad framework of modern finance theory. For if it could not be so accounted for, then many of the standard assumptions of regulatory practice — such as that in the absence of market or regulatory failure markets allocate goods, services and capital efficiently and hence regulatory interventions cannot improve market function — would not be robust, and the whole framework of regulation across Member States (encompassing all sectors — not merely the finance sector, let alone subsets such as AIFM) would need to be reconsidered. The financial crisis represents, *inter alia*, a fundamental intellectual challenge to the approach regulation has taken across the economy. And those that contend that the financial crisis exposes that the underlying tenets of economic theory (in particular the Rationality axioms) are inadequate, argue that this crisis exposes what Lord Turner terms an “intellectual error” in the whole approach taken to regulation over recent decades.

Alternative Stylised Characterisation of the Financial Crisis: Irrationality-Based Account

A1.38 There have always been economists and practitioners who do not believe that investors are rational. In their opinion economic agents in general and financial operators in particular, can (and often do) make “irrational” decisions.

A1.39 Proponents of such theory, who have particularly flourished in recent years in the fields of behavioural economics and behavioural finance (including Nobel laureates), often quote J.M Keynes who in the 1930s compared financial markets to *“those newspaper competitions in which the competitors have to pick out the six prettiest faces from a hundred photographs, the prize being awarded to the competitor whose choice most nearly corresponds to the average preferences of the competitors as a whole; so that*

³⁹ We dispute this last contention, believing that the LTCM case illustrates that the regulatory authorities can, in principle, regard hedge funds as systemically significant.

*each competitor has to pick, not those faces which he himself finds prettiest, but those that he thinks likeliest to catch the fancy of the other competitors.*⁴⁰

A1.40 Therefore, rather than basing their decisions on where to invest on the expected stream of payments associated with a particular share or bond (i.e. rather than acting as set out in our characterisation of modern finance theory, using net present value analysis and some variant of option theory [albeit perhaps based on more precise understandings of risk and risk evaluation than embodied in those theories]), investors would systematically make “mistakes” in making decisions for a number of reasons, such as:

- limited foresight (inability or failure to form views far into the future);
- over-use of rules of thumb (so-called “procedural rationality”);
- default/status-quo bias;
- loss-aversion/narrow bracketing;
- present-biased preferences (i.e. overweighting of immediate costs and benefits);
- overconfidence;
- self-serving fairness bias;
- nonlinear probability weighting (i.e. overweighting of small probabilities and insensitivity to variations in probability);
- “peanuts” effect / importance of tangibility; and
- irrational herding behaviour.

A1.41 One example of herding behaviour has been highlighted by Paul Krugman. “Finance economists”, claimed Krugman, “rarely asked the seemingly obvious (though not easily answered) question of whether asset prices made sense given real-world fundamentals like earnings. Instead, they asked only whether asset prices made sense given other asset prices”. Any failure in pricing to reflect fundamentals threatens sub-optimal outcomes.

A1.42 The price of financial instruments would therefore reflect the actions of such irrational agents rather than reflecting all the available information at any given moment in time. At the same time, consumers would not be in a position to judge objectively whether one financial product (e.g. a mortgage) is more suitable for them than another and investors

⁴⁰ Keynes (1936), page 156.

would not be making an accurate assessment of the likely future income streams associated with a company in order to choose whether or not to invest in it.

- A1.43 One should therefore not rely on the market itself to “self-regulate” (even in the absence of any of the forms of market failure discussed above) and bring asset prices in line with economic “fundamentals”, nor should one let consumers choose financial products on the basis of their own judgement or assume that investors “know what they are doing” when investing. A considerably more extensive set of rules and regulations should be put in place so that the irrational behaviour of economic agents does not result in “bubbles” that sooner or later are destined to burst with detrimental effects on overall welfare.

The Turner Report

- A1.44 Following the banking crisis, the Chancellor of the Exchequer in the UK asked Lord Turner, in his capacity as Chairman of the UK FSA, to review and make recommendations for reforming UK and international approaches to the way banks are regulated. The resulting Turner Review contains a pivotal section, 1.4, which dismisses the entire architecture of modern finance theory.

- A1.45 Section 1.4(i), in particular, is entitled “efficient markets can be irrational”. That subsection cites Keynes’ attack on the view that equity prices are determined by rational assessment of the available information. Keynes’ argument runs contrary to the assumptions about financial markets that have tended to inform regulatory policy in financial markets in the developed world over the past 30 years or so. The Turner Review argues that these assumptions can be critiqued on the following grounds:

(a) Market efficiency does not imply market rationality – the Turner Review cites Shiller’s *Irrational Exuberance* on this point and contends: *“The fact that prices move as random walks and cannot be predicted from prior movements [i.e. that markets are weakly efficient] in no way denies the possibility of self-reinforcing herd effects and of prices overshooting rational equilibrium levels”*.

(b) Individual rationality does not ensure collective rationality – it is argued that this conclusion holds “in conditions of imperfect information and/or” when “particular relationships between end investors and their asset manager agents result in market price movements characterised by self-reinforcing momentum”. This is a form of principal-agent argument but it is noticeable that many AIF, particularly private equity, are perhaps less susceptible to these problems due to the activist position of owner managers.

(c) Individual behaviour is not entirely rational – this is said to contribute towards “herd effects and thus irrational momentum swings”.

(d) Allocative efficiency benefits have limits – “it is for instance arguable that the allocative efficiency benefits of the creation of markets for many complex structured credit securities (e.g. CDO-squareds) would have been at most trivial even if they had not played a role in creating financial instability”.

(e) Empirical evidence illustrates large scale herd effects and market overshoots.

A1.46 On the basis of this theory and evidence, the Turner Review concludes: “A reasonable judgment is that policymakers have to recognise that all liquid traded markets are capable of acting irrationally, and can be susceptible to self-reinforcing herd and momentum effects”. This view feeds into the Turner Review’s understanding of the financial crisis; an understanding that informs the likely evolution of financial regulation. And later sections of the Turner Review repeatedly appeal to Section 1.4 to justify the regulatory judgements made.

The Turner Review’s characterisation of the financial crisis

A1.47 The Turner Review presents its analysis of the financial crisis over four sections:

(a) The global story: macro-imbalances meet financial innovation

“At the core of the crisis lay an interplay between macro-imbalances which had grown rapidly in the last ten years, and financial market developments and innovations which have been underway for about 30 years but which accelerated over the last ten to 15, partly under the stimulus of the macro-imbalances”.

(b) The UK specific story: rapid credit growth, significant wholesale and overseas funding

“The UK was significantly influenced both by the growth of the securitized credit model and shadow banking activities and therefore highly vulnerable to their collapse”.

(c) Global finance without global government: fault lines in the regulation of cross-border banks

“The crisis revealed fault lines in the global regulation and supervision of some of these cross border firms, which raise fundamental issues about the appropriate future approach. The essence of the problem – as the Governor of the Bank of England, Mervyn King has put it – is that global banking institutions are global in life, but national in death”.

(d) Fundamental theoretical issues: market efficiency and market rationality

“Five propositions with implications for regulatory approach have followed:

- Market prices are good indicators of rationally evaluated economic value.
- The development of securitised credit, since based on the creation of new and more liquid markets, has improved both allocative efficiency and financial stability.
- The risk characteristics of financial markets can be inferred from mathematical analysis, delivering robust quantitative measures of trading risk.
- Market discipline can be used as an effective tool in constraining harmful risk taking.

- Financial innovation can be assumed to be beneficial since market competition would winnow out any innovations which did not deliver value added.

Each of these assumptions is now subject to extensive challenge on both theoretical and empirical grounds, with potential implications for the appropriate design of regulation and for the role of regulatory authorities”

- A1.48 We should thus understand the Turner Review as suggesting that the credit crunch arose as a result of a flow of events which was not offset by regulation or by market participants, because it was assumed that such a flow of events could not intrinsically involve malfunction as opposed to error. (By error we mean that agents believe information that is mistaken, but if their information were correct then the market outcome would be efficient. In contrast, if there is malfunction then even if all of the information agents have is correct, the outcome could still be inefficient.)
- A1.49 Turner’s account does not require the same sort of “why” explanations we set out in our factors for the rational account. Since agent behaviour is intrinsically irrational and such irrationality intrinsically generates malfunction, there is no particular mystery as to why overall outcomes should appear inefficient.