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The accounting statements of global financial institutions and the recent crisis

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The Accounting Statements of Global Financial Institutions and the Recent Crisis

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Foreword

The paper looks at major issues associated with accounting policies and standards which affected the banking sector in the run-up to the financial crisis. More particularly, it describes some of the unfortunate consequences of the interaction between financial reporting, capital requirements, risk management procedures, bank business models and remuneration. These include challenges associated with fair value accounting, pro-cyclicality, and comparability of, and precision in, numbers in financial reports.

It is reassuring that some of the issues raised are starting to be addressed by recent revisions to financial reporting standards, such as IFRS 9. Nevertheless, it is too soon to be complacent, and issues raised must also be addressed through improvements in corporate governance and regulation.

The paper concludes by identifying seven topics for future research and study. Some of these topics lend themselves to qualitative research and others to discussion. ACCA commends these topics and looks forward to contributing to these areas of further study.

While the views expressed are those of the authors alone, ACCA considers that this paper raises issues of such importance that they are worthy of wider dissemination and public debate, and that the authors' ideas merit further study.

1. Introduction

This paper addresses some of the major conceptual and policy issues concerning accounting policies and standards used by globally active banks. It briefly examines what bank financial statements reveal about risk exposure and remuneration in the wake of the current financial crisis, and considers some prominent issues that can be usefully addressed in future research. The discussion is largely focused on bank accounting and bank financial statements, but related issues for pension funds and insurance companies are also mentioned.

This is not an in-depth research report. The aim is to raise questions than rather than to provide fully researched answers. We give only limited references to other research studies and there is no extensive bibliography. Our data analysis – of bank exposure to structured credit assets and on remuneration – is purely descriptive and conducted for a limited set of institutions. The main analysis was completed in March 2009 and we have not updated the tables with subsequently available data. We can, however, highlight some key issues that seem to merit further study.

We should also caution the reader that we examine only two issues (accounting standards and remuneration) where major initiatives have been either introduced since the crisis or proposed for the years ahead. We do not discuss the large number of other regulatory and financial stability issues that have been pushed high up the policy agenda as a result of the global financial crisis. For example, this paper does not discuss the proposals for new capital and liquidity regulation of banks being developed internationally by the Basel Committee and the Financial Stability Board under the auspices of the G20, or the new 'macropruduential' approaches to regulation.

Accounting standards have sometimes created serious practical problems for both management and investors in financial institutions. They do not always align well with underlying business risks and they can make it difficult for investors to compare performance in a consistent fashion, both over time and between firms. These weaknesses have become very apparent during the recent global credit crisis, in part because revisions to accounting standards had the unintended consequence of weakening the correspondence between the accounting statements of financial institutions and their underlying business lines and business processes. More recent revisions, notably IFRS 9, are addressing these concerns, but questions remain about the application of accounting standards to financial firms.

There is also widespread concern that senior executive remuneration in financial institutions has become detached from underlying performance. Our examination finds that senior executive remuneration for a small sample of large banks is in fact fairly closely aligned with reported accounting earnings and net worth, but there is some indication of a 'ratchet' effect, with earnings rising more easily than they fall.

The paper is organised as follows. Section 2 provides an overview of some broad issues concerning the application of fair value accounting to financial institutions, discussing the implications for risk management and capital regulation and for the comparison of performance. Section 3 examines bank risk exposures during the current crisis and the extent to which these were revealed by bank accounting statements. Section 4 looks at remuneration in some of the largest banks. Section 5 identifies a small number of suggested projects for future research.

2. Broad issues in applying fair value to financial institutions

This section identifies some of the main concerns surrounding the application of fair value accounting to banks and other financial institutions.

DOES FAIR VALUE ACCOUNTING CREATE DIFFICULTIES IN RISK AND CAPITAL MANAGEMENT?

Even before the present crisis, many bankers had been concerned that the introduction of 'fair value accounting' in US GAAP and in IAS 39 was causing difficulties in managing risk and capital. As a consequence of the shift to 'fair value' accounting, the accounting treatment of financial assets was determined in one of four ways, depending on the holding intention.

(a) 'held to maturity', in which case fair values do not affect P&L or balance sheet, as long as there is no underlying impairment or revaluation based on 'tainting' rules (see below for discussion of 'tainting' rules);

(b) 'loans and receivables', with similar accounting treatment as 'hold to maturity' but with no tainting provisions;

(c) 'available for sale', with fluctuations in market value affecting only the balance sheet and not the P&L;

(d) 'trading assets', with changes in market value taken both in P&L and the balance sheet. While there is a range of classifications for investment assets there is no similar choice for derivative contracts. These are all marked to market in the same way as trading assets.

The new IFRS 9 of November 2009 has swept away much of this complexity, reducing the choice of classification to two broad categories: held to maturity, valued on the basis of amortised cost, and trading assets, valued using mark to market. The choice is supposed to reflect the underlying business model.

There have been a number of prominent concerns about IAS 39 (although as we discuss in detail below, a number of these are being addressed, at least in part, by IFRS.

- Inconsistencies between the valuations of positions taken to hedge risks and of the underlying banking book exposures they are intended to protect. Examples include swaps used to hedge interest rate risk on a portfolio of fixed interest loans or, similarly, swaptions (options to purchase interest rate swaps) that can be used to hedge prepayment risk on fixed interest loan portfolios. Valuation is not a problem when the swap is tailored to hedging the risk to a specific exposure (in this case it need not be marked to market). But often the swap is not tailored to a specific loan and this is in any case impossible for a swaption because prepayment is not a predictable function of interest rates. There is a fair value option, allowing the hedged assets to be also marked to market in a consistent fashion, but for most banking book exposures this cannot be applied because there are no relevant market prices. The consequence is that the mark to market of the hedging portfolio is often not offset against a corresponding mark to market of the underlying assets/liabilities. This can introduce considerable volatility in both returns and capital values. IFRS 9 does not address this concern because there has been no change in the treatment of derivatives.

- Fluctuations in mark-to-market values of illiquid securities such as corporate bonds or structured credit securities have been another concern. These securities are only 'correctly' priced at the time of the initial recognition (ie, at purchase). Subsequently, prices can move around substantially, and when markets are illiquid this may not be a good indication of future cash flows. This has caused particular problems during the global credit crisis. Loss in the liquidity of structured credit securities, especially among those held as available for sale, resulted in substantial downward

revaluation and hence major reductions of bank capital. The argument made by many is that mark-to-market valuation of an illiquid security is not business-relevant if a financial institution can, and intends to, hold to the underlying assets until either liquidity returns to the market or until final maturity.

- A third concern is about so called 'tainting' provisions, under which a sale of one asset or loan from a hold-to-maturity portfolio could require a substantial revaluation of similar loans or assets that remain on the balance sheet, hence discouraging transactions such as loan sales that might be desirable from a risk management perspective. The accounting rules thus adversely affected liquidity. This issue is, however, addressed in IFRS 9, since these tainting rules will no longer apply once this is adopted.

- Finally, there has been concern about inconsistencies between the treatment of available-for-sale assets and loans and receivables, especially in an emerging market or other contexts where there is little or no liquidity in the market for secondary trading. The accounting requirements for available-for-sale assets could often require the recognition of a capital loss at time of purchase, because of relatively low valuation in an illiquid secondary market, a loss that would not be imposed for a loan. The new IFRS 9 addresses this concern by abolishing the available for sale classification

When fully adopted, IFRS 9 will deal with the last two of these concerns as noted above. The timing remains uncertain, in part because the European Commission has postponed acceptance of its use in Europe. Moreover, the International Accounting Standards Board is engaged in further work on hedge accounting that should be finalised in the course of 2010 and will help address the second of these concerns. But it appears likely that considerable management attention in banks will continue to be devoted to the impact on earnings and net worth of the accounting treatment of both hedging and of illiquid securities (banks still hold large legacy portfolios of illiquid assets). There has been relatively little work on the resulting volatility of both bank earnings and capital and no quantification, for example, of how much additional capital is appropriate to cope with accounting risks of these kinds.

Similar concerns about volatility of capital ratios can arise for defined benefit pension funds and life insurance companies, again because their balance sheets contain a mix of liquid and illiquid exposures.[1] In the case of life insurance and defined benefit pension funds it is usual to value future cash payments discounted using yields on long-term high quality bonds, so that when interest rates fall the value of liabilities rises. This need not of itself be a problem, but when capital ratios are reduced to minimum acceptable levels this can induce sales of assets and portfolio adjustments, reductions of portfolio values, and further weakening of capital ratios. It could also introduce additional financial strain on sponsoring firms requiring setting-aside cash precisely when profitability is affected by the recession. To the extent that pension plan and life insurance assets are held for the long term, this can be regarded as counterproductive and unnecessary, at least if we assume that valuations will ultimately recover.

While the global financial crisis has highlighted problems with accounting standards, it would be going much too far to interpret accounting valuations as a fundamental cause of the difficulties faced by financial institutions over the past two and a half years.[2] Write-downs and loss of capital caused major problems for only for those firms that were most highly leveraged and had a high level of maturity mismatch. In the build-up to the crisis it was common practice for banks to hold large portfolios of structured credit assets in trading portfolios or in off balance sheet vehicles (conduits and structured investment vehicles or SIVs), financing these positions using short-term secured funding instruments such as sale and repurchase agreements REPO and asset-backed commercial paper (ABCP). Accounting valuations have no effect on the ability to use assets as security for such short-term collateralised borrowing. For this purpose all that matters are lenders' views on the prospective amount that can be realised from an immediate resale of the collateral.

In this situation, creditor and investor concern focused on those firms perceived as being weakest, because of leverage and maturity mismatch, making it even more difficult for them to obtain short-term finance, collateralised or uncollateralised, at any price, and the expectation of illiquidity and failure became a self-fulfilling prophecy for many firms. Accounting valuations may have contributed something to this instability, but they were far from being the root cause.

Similarly, the problems caused by declines in capital ratios are as much owing to weaknesses or regulation as they are to accounting standards. It is not always appropriate to use equity capital or net worth, measured according to IFRS or US GAAP for assessing bank, pension fund or insurance company regulatory capital adequacy. This has already been acknowledged in the US, where the fair value adjustments affecting only the capital account (ie, changes in the value of available-for-sale securities) are not taken into account for the purpose of calculating bank regulatory capital requirements.

1. See Dwityapoetra Besar, Philip Booth, Ka Kei Chan, Alistair Milne and John Pickles, *Systemic Risk in Financial Services*, 2009, a report for the Actuarial Profession, which contains a fuller discussion of this point as well as extensive references.

2. For example, *SEC Report to Congress on Mark-to-market Accounting*, Securities Exchange Commission (SEC), December 2008, (http://www.sec.gov/spotlight/fairvalue.htm) which finds that fair value accounting did not contribute to the failure of US banks.

THE PROBLEM OF 'PRO-CYCLICALITY'

Accounting arrangements for banks and other financial instruments encourage 'pro-cyclicality', with capital and deal making reduced sharply in economic downturns and, in turn, exaggerating the economic contractions.[3] Again there are several examples, notably:

- While the shift to fair value accounting, both in US GAAP and in IFRS, has led to a greatly increased reliance on mark-to-market valuations in bank financial statements, there has been no parallel change in provisioning for credit losses on loans and receivables. Provisions are either loan specific or, when made on a general basis, only possible where there is a degree of certainty that losses will be incurred. Provisions made on such an incurred loss basis, reflect losses that have materialised by the end of the accounting period, but not prospective losses that can be anticipated in future periods. As a result, impairment provisions are highly cyclical, falling during economic expansions and rising during contractions. Regulators have argued that banks should be required to make provision for loan losses in a more conservative way, and earlier than is allowed at the moment, taking account of prospective losses based on current economic and market conditions, for example as is encouraged in Spain by its regulatory policy for pro-cyclical provisioning.[4] A similar approach, based on expected cash flows, is now proposed by the International Accounting Standards Board.[5]

- Another form of pro-cyclicality arises in a variety of corporate investment banking transactions, for example syndicated lending, or those structuring deals where credit-risky assets were purchased and packaged inside loan-backed securities. Such deals have virtually ceased since the onset of of the current credit crisis, but during the previous credit expansion it was possible to book large upfront profits by selling a proportion of participation to other investors, who would pay high prices because of optimistic assessments of future economic prospects and of anticipated further rises in asset prices. This allowed bankers to book large transaction profits and earn substantial bonuses, even when their firm was retaining a substantial proportion of risk. It appears that accounting rules that allowed the immediate upfront recognition of transaction profits, based on partial sale of exposure, encouraged a greater volume of deal making than would have been possible with more conservative valuations. The International Accounting Standards Board has recently (December 2009) released the exposure draft of a new proposed standard on consolidation, and this may reduce such opportunities for the booking of upfront profit; but this matter will still require close attention. There is also, to our knowledge, no careful research on the impact of accounting rules, and their interaction with the economic cycle and economic expectations, on the business viability of such deals.

These forms of accounting-driven pro-cyclicality have been reinforced in the current downturn by the introduction of the new Basel II capital rules, in which capital requirements depend on ratings or on prospective default rates and so have been rising sharply in the current downturn.

Accounting valuations and regulation are far from being the only source of pro-cyclicality. A fundamental reason for the recent crisis, as of many past banking crises, has been gross understatement of risk. It was industry practice to calculate potential losses for an extremely short horizon (one year ahead credit loss distributions were the standard for both regulatory capital and for internal risk assessment in most banks) based on a relatively short run of data from a period during which the economic environment had been exceptionally benign. As a result credit risk models were characterised by low default probabilities (PD), limited loss given default (LGD) and, most critically for mortgage-backed securities, very low correlation of default. Credit rating agencies made similar mistakes, especially in their ratings of ABS-CDOs (credit securities backed in turn by other structured credit securities such as the lower tranches of mortgage-backed securities) and of the mezzanine tranches of mortgage-backed securities.

Liquidity risks were similarly underestimated. Several banks (well known examples are Northern Rock in the UK and Countrywide in the US) had come to rely largely on the securitisation for mortgages as their principal source of funding, and were quite unprepared for the freezing of markets for the sale of mortgage-backed securities in the summer of 2007. Many others adopted strategies for trading of structured credit securities whose profitability depended on continued availability of short-term collateralised funding, and were caught out when structured securities could no longer be traded.

Junior employees, who were still school or university students at the time of the last serious global credit downturn in the early 1990s, might well have thought that benign conditions would last forever and so their willingness to chase the credit expansion to the limit is understandable. Senior management has no such excuse. At least part of the explanation for its failure to adopt more cautious strategies as the expansion continued, is that the same mistake of under-appreciation of risk was made by banking analysts and investors on the buy side of the market. Institutions that aggressively pursued revenue

3. The pro-cyclicality of reported accounting earnings and capital has been the subject of extensive recent debate among regulators and practitioners. See in particular the April 2009 reports of the Financial Stability Board on this topic: http://www.financialstabilityboard.org/publications/r_0904g.pdf and http://www.financialstabilityboard.org/publications/r_0904h.pdf

4. See, for example, Basel Committee on Banking Supervision (2009) 'Comprehensive Response to the Global Banking Crisis', September, http://www.bis.org/press/p090907.htm

5. These proposals are contained in the exposure draft, *Financial Instruments: Amortized Costs and Impairment*, International Accounting Standards Board, November 2009.

growth and market share were rewarded with rapidly increasing share prices. This in turn created strong financial incentives for senior management to focus on short-term performance, because remuneration and bonus arrangements relied too much on recent accounting returns and share price appreciation, and so any concerns about rising risk exposure were put to one side.

To conclude, while accounting rules are far from being the only source of 'pro-cyclicality', it is important to ensure that they do not add unnecessarily to this problem. For this reason we welcome the current reworking of the international accounting standards governing recognition of credit impairment on an expected cash flow basis. It is possible that these more 'generous' rules may allow banks to over-provide and create hidden reserves. However, this may be a cost worth being paid to avoid similar crises in the future, provided it is clear that additional provisioning is there for rainy days. There is also a separate concern that accounting rules have made it relatively easy for the departments of investment banks to book upfront profits, for example from the structuring of credit of syndicated lending, while still retaining substantial risk exposure. This may need further attention.

FAIR VALUE ACCOUNTING HAS NOT ALWAYS ACCURATELY REFLECTED THE BUSINESS MODELS USED BY BANKS

Fair value accounting, at least as it was been put into practice in IAS 39, did not result in a close match between bank accounting valuations and the internal performance measures or procedures for management of risk exposures used by different business divisions. Under the older arrangements, accounting treatments for bank exposures were clearly distinguished along business lines, with 'trading book' activities all marked to market, and 'banking book' treated entirely on a historical accruals basis.

These procedures for recording banking book assets and income were far from perfect. There was far too much scope for delaying the recognition of credit or the full scale of net interest income losses. Off balance sheet exposures were inadequately recognised. As loans and other credit exposures were being increasingly traded, the lines between banking and trading books were being blurred, suggesting a need for a more consistent treatment between the different business lines. But the mix of valuation procedures introduced by IAS 39 exacerbated these problems.

This posed difficulties not just for management but also for outside investors, since even with today's very lengthy financial reporting statements it is difficult to drill down and evaluate the performance and risk exposure of different business divisions, especially those involved in more sophisticated financial transactions. Examples in the recent crisis include UBS, Merrill Lynch, AIG and the UK bank HBOS, whose losses have largely arisen in specialised divisions whose activities do not appear to have been properly understood by either senior management or stockholders.

Achieving a better correspondence between accounting standards and underlying business models is critical for both investor transparency and the comprehensiveness of management information. In the case of UBS and Merrill Lynch it appears that senior management did not themselves adequately understand the source of their reported profits. The senior management of AIG and HBOS did seem to know what they were doing, but found it relatively easy to hide large risk exposures – to market risk in the case of AIG, and to credit impairment in the case of HBOS.

IFRS 9 stresses the relationship between the underlying business model and the choice between valuing assets on a mark to market or accruals basis; in effect, it is reviving the older distinction between banking and trading book, but without the clear distinction between types of asset that supported the older regime.

Another example of a mismatch between accounting valuation and underlying business model has been in the fair value of liabilities. Under certain specific circumstances specified in IAS 39 (when liabilities are issued for trading purposes, or where assets were managed on a fair value basis and so there would be an accounting 'mismatch' in the treatment of assets and liabilities if liabilities are not marked to market) long-term debt could be valued at market value with capital gains and losses taken through P&L. As we understand it, this should have applied to bonds or other liabilities on balance only if the company was both able and willing to repurchase them. In practice, however, this treatment appears to have been applied rather flexibly, and often in inappropriate circumstances. The paradoxical outcome has been that a loss of investor confidence in a firm could sometimes be treated as a contribution to profit, because the resulting increase in credit spreads lowered the market value of the firm's long-term debt. A case in point is the substantial fall in the market value of long-term bonds issued by Barclays Group, which were a major contributor to 2008 group profit.

Such an accounting treatment can be appropriate when liabilities are secured against specific assets, not against the balance sheet of the entire firm. It makes business sense, for example, for liabilities issued by a special purpose vehicle (SPV) holding tradable assets (for example leveraged loans) and where the bank owns the residual equity. Because the bank holds the equity tranche such a vehicle is classified as on balance sheet under IFRS. But the bank has only a limited exposure to a fall in the market value of the assets held by the SPV, and it is appropriate to offset any loss of value in the SPV assets with an accounting gain from the fall in the value of SPV liabilities.

A similar treatment of long-term debt would also align reasonably well with the underlying business model in the case of a financial institution that is a pure trading operation, for example a hedge fund that issues actively traded long-term debt. So this is a reasonable approach for a financial institution such as, say, the UK-based Man Group that makes most of its profit from trading. But it is

hard to identify many examples of this kind, that is, of a trading operation that issues actively traded long-term debt. Almost all banks engage in at least some trading with their own capital (either in a separate proprietary trading desk or intermingled with their brokerage, market making and dealing operations as 'principal-based trading'), but do so as part of a mixed business model that also includes fee-based customer services, and often also traditional retail and corporate credit, and sometimes other activities, such as life and general insurance and asset management. In these mixed cases the repayment of long-term debt secured on the firm's balance sheet no longer depends just on the performance of traded assets but also on future cash flows from illiquid assets supporting a variety of business lines. In such a mixed case it is arguably no longer consistent to treat a decline in the market value of debt as an offset to current decline in the market value of assets, because assets have not been consistently marked to market. But against this it can be argued that fair value is still appropriate, if the bank has the ability to repurchase these liabilities and is in a position to exercise this option without substantial impact on market values, of either the liabilities repurchased or of other liabilities.

This issue is now being addressed. The International Accounting Standards Board has raised this issue of mark-to-market valuation of liabilities in its June 2009 exposure draft. IFRS 9 did not alter the standards for liability valuation, but the IASB expects to issue a new standard for liability valuation in the course of 2010.

To conclude, the replacement of IAS 39 by the simpler valuation standard introduced by IFRS 9 and other forthcoming changes to international accounting standards are welcome, and will allow a closer alignment of accounting treatment and underlying business model. But these developments still leave open questions about the exercise of the choice between mark-to-market and accruals-based valuation and their relationship to the underlying business model.

It is not enough that this choice is left entirely to management, based on their declared intentions when acquiring an exposure; such choices should be subject to rigorous regulatory and corporate governance review. We have already discussed above how the boom in structured credit was encouraged by practice of recognising future anticipated cash flows on retained exposures, through 'marking to market' at the inception of a deal rather than when the cash flows eventually arrived (one of the accounting contributions to pro-cyclicality discussed above). Here the critical, but regrettably unchallenged, assumption was that retained exposures could always be easily traded.

This was a reasonable assumption for some trading exposures, such as liquid derivatives, large capitalisation equities or major foreign currencies. In these cases there is a reliable deep and liquid secondary market. Well-informed, skilled traders can make consistent profits buying and selling such liquid instruments. But when they do so they do not make substantial profits at the inception of a trade, rather they must wait a period of hours, days, or sometimes even many months in order to obtain returns that are superior to the market.

It is an unreasonable assumption for other exposures where reliable liquidity is the exception rather than the rule. As the current global credit crisis has revealed, holding structured credit securities or other potentially illiquid assets, such as small capitalisation equities or corporate bonds, creates major revaluation and liquidity risks. Given the growing fiscal problems of many OECD governments, even government bonds should be regarded as potentially illiquid. So if such potentially illiquid assets are to be 'marked to market' then for such valuations to be meaningful it is essential that the financial institution operates with only limited maturity mismatch and leverage, in order to be in a position to absorb any loss of liquidity, such as emerged in the current global credit crisis, without being forced to sell at unusually low prices.

Where, moreover, the application of 'mark-to-market' valuation allows the booking of substantial profits at the inception of a deal, this should be regarded as an indication of hidden risks that cannot be traded or hedged. Booking of substantial upfront 'mark-to-market' profits in financial transactions should be regarded as a red flag, indicating that returns are being reported in an inappropriately favourable light, to the benefit of employees and management and at the expense of shareholders and bond and deposit holders. In such cases it should only be possible to book profits on an accruals basis or when the position is sold out, regardless of the capitalisation and liquidity of the institution. Profit should be recognised only when all risks associated with such a transaction have been eliminated.

Applying disciplines of these kinds is a corporate governance and regulatory responsibility, not an accounting responsibility. But accounting standards are still crucial, in order to ensure that large, complex financial institutions provide a sufficiently detailed and meaningful breakdown of different activities and exposures so that shareholders, bondholders and regulators can properly exercise these responsibilities, challenging large upfront profits because these are an indicator of hidden risks, and ensuring that all institutions have in place adequate risk controls, capitalisation and liquidity. This is the problem of comparability, discussed next.

COMPARABILITY

Because most financial firms engage in a wide range of activities, it is often difficult to compare accounting statements produced by different financial firms or even for single firms over time. This creates a tension. A basic function of accounting statements is to allow investors and analysts to make sensible comparisons, both between firms and over time. This requires that different firms prepare their accounting statements on a fairly standard and comparable basis, or at least that notes accompanying the accounts allow such standard comparisons to be made. At the same time, in order that outside investors and regulators fully understand the activities and risks of a firm, it is necessary that the financial statements and accompanying notes disclose a great deal of information, with considerable detail about a wide range of exposures. Financial institutions, especially banks, are the record breakers when it comes to the length and complexity of their financial statements, and this makes comparability difficult. How then to ensure sufficient disclosure without making comparability all but impossible?

US rules make an attempt to overcome this problem of comparability. All US firms issuing securities are required to make reports with the SEC (the annual 10-K, the quarterly 8-K) providing information in a fairly standardised reporting template. This makes it somewhat easier to compare the performance of different US firms or track their performance over time. Outside the US, IFRS allows a relatively large amount of latitude in how numbers are presented, making these comparisons relatively more difficult. There is a question of whether or not European Union should have more standardised reporting templates, such as those that apply in the US. But (as our analysis of credit exposures in Section 3 reveals) there can be considerable variation of disclosure, even among US firms, in areas where the SEC rules are silent.

The introduction in 'fair value accounting' of procedures which allow different classifications of the same assets according to the intent of the investment (held for trading, available for sale or held to maturity), has made it more difficult to make comparisons between firms, since two different firms may have quite different policies about treating assets as held for trading or available for sale. As a result, two firms holding exactly the same portfolio, but adopting different accounting policies and intentions, may end up reporting quite different levels of income. This is not necessarily a problem, but it is certainly necessary for investors to know the rationale for the different treatments and this has often not been made clear. The fair value accounting rules were at least intended to ensure comparability for individual firms over time, but even this has weakened as, in response to the crisis, firms have been allowed to transfer assets from one category to another. IFRS 9 will encourage greater comparability, but the choice of valuation method may still vary substantially from one firm to another.

One widely expressed view is that differences in accounting treatments for different firms is perfectly acceptable provided that these differences reflect the underlying business models, and that therefore management should have latitude to choose from among different accounting treatments, in order to provide investors and other users with the most accurate information on their business performance. This is reasonable but does not remove the tension to which we have referred: this is a perfectly acceptable approach for the purpose of making comparisons for a single company over time, but hinders comparisons between companies, since the claimed difference in business model could be no more than a difference in managerial attitude; for example, between their approaches to running similar businesses – one taking a more cautious approach, stressing valuation based on accrued income, while the other adopts a more aggressive approach, stressing valuation based on current market value.

A related issue may be noted in times of market stress, when the question arises of whether a firm still has substantial positive net worth at current market values (and thus is clearly safe), in which case mark-to-market valuations should be available regardless of the business model chosen by the firm. All this indicates that users, at least on occasion, need to be able to value all assets and liabilities in ways that are not influenced by the firm's claims about its own business model. This can be possible; modern information technology makes it relatively easy for users to undertake their own restatements, provided that the company releases valuations of its assets using all required valuation methods, for example in accompanying spreadsheets. We therefore believe there is a case for requiring firms, especially financial firms, to release alternative valuations (mark to market and accrued income) of many assets and liabilities in order to facilitate comparisons between companies and assessments of creditworthiness.

Similar issues of comparability arise in the choice between level 2 or level 3 calculations of fair value under US GAAP.[6] Level 3 (pure model-based valuations) are only used for a minority of assets and the vast majority are valued according to level 2 with reference to observable market inputs. But practice does differ between firms, and firm-specific assumptions are used, making it difficult to compare the returns and net worth of different institutions.

These concerns raise fundamental issues about the construction of financial statements. One issue is the degree of latitude allowed to individual firms; whether, for example, it is possible for them to adopt a different valuation method if they change their investment intentions, or their ability to perform on those intentions changes. An alternative would be to give investors and analysts more choice in valuation method, rather than forcing them to depend on the choice made by management. This might be done by requiring firms to report a variety of valuations alongside those used for their main accounting statements, in notes to accounts and

6. Level 1 means valuation by direct application of a market price, level 2 means valuation based on observable inputs, level 3 means a model based valuation with some unobservable inputs

accompanying spreadsheets, together with a full statement of the assumptions used in their creation. Investors would then be in a position to restate the accounts for themselves, so as to make consistent comparisons over time or between firms. We are not aware of any research that has obtained the views of banking and financial institution analysts, or of investors, on the extent to which fair value accounting has facilitated or hindered comparisons between firms and over time and on what might be done to improve such comparability.

SINGLE NUMBER VERSUS A RANGE OF NUMBERS

Even if accounting statements match fairly well with underlying business models, and are produced on a comparable basis in different institutions, there is a separate problem that when prices are not easily observed, for example when markets are illiquid, it can then be misleading to summarise either income or net worth as a single number. We are used to thinking in terms of the balance sheet or the income statement, but in practice it is not possible to accurately represent all components of income or all assets and all liabilities in a precise numerical fashion. This is, of course, a general problem in accounting, arising whenever valuations cannot be obtained directly from current prices in liquid markets.

One response to this problem has been the concept of 'confidence accounting' put forward by Michael Mainelli and Bob Giffords.[7] The idea is that since accountants and auditors use statistical methods to estimate accounting line items, that the accounting statements should reveal the statistical uncertainties surrounding these estimates, as well as the estimates themselves. As Mainelli and Giffords put it; 'Confidence accounting would be the presentation of audited accounts in a probabilistic manner.'

Similar proposals have been made by Claude Borio of the Bank for International Settlements. He writes:[8]

> *an aspect highlighted by the current turmoil is the wide margin of error, or the uncertainty, that can surround the valuations of instruments for which a liquid underlying market does not exist (or may evaporate at times of stress). To varying degrees, the valuation of these instruments relies on models (marking-to-model). That of complex products, in particular, depends quite heavily on these approximations. In previous work, we have argued that it is essential to complement such point estimates with measures that seek to provide some sense of the range of uncertainty that applies to them.*

This is an issue that needs further debate. Certainly false precision is to be avoided. But it is not clear how best to ensure that users of accounting statements can be made aware of the degree of precision they should attach to different numbers, especially when these represent aggregations of many individual valuations, each individually subject to measurement error (statistically the calculation of measurement error in such aggregates requires a statistical model of the correlation between errors in different components). We could end up supplementing accounts with considerable detail on statistical and other models used for their construction, without in practice helping users of accounts. On the other hand some indication of the range of possible valuations should be helpful.

This problem of measurement error is associated with the issue of adequate disclosure of the risks associated with financial instruments, something that has recently been addressed by IFRS 7. This standard, published at the beginning of 2009, compiles together a number of different IAS and IFRS standards, the result of several years of work, initiated before the global credit crisis, on the use of financial instruments and the reporting of associated risk exposures. It requires firms to report on both the impact of financial instruments on their accounting statements and performance and on the market, credit and other risks resulting from the use of financial instruments, including information used internally to summarise risk exposures for management.

We conclude that there is no simple solution to the reporting of liquidity and other financial instrument risks. Users require a range of information to fully understand the underlying business models used by financial institutions and how they are performing. The key will be for accounting standards setters to engage, perhaps more effectively than they have done in the past, with the users of accounts, to establish what reporting practices will most help them compare different financial institutions and understand how different business lines have performed over time and the resulting exposure to financial risks.

FAIR VALUE ACCOUNTING AND COMPENSATION

A final related issue is the calculation of bonus payments to create appropriate performance incentives among both junior and senior staff. In the context of fair value accounting an issue arises as to how fair value gains and losses should affect compensation. Senior management are compensated through cash and share bonuses and share options that contractually depend upon both share price and accounting measures. Junior and other staff also receive cash and share bonuses, but these are awarded in a less mechanistic way, and are dependent on the overall size of the bonus pot available. There is now a reasonable amount of published information on senior management bonuses, especially in the US where this is a mandatory 10-K disclosure (we use some of this information for the analysis of Section 4). But there is very little published information on the magnitude and setting of bonuses for other staff. There is clearly scope for research and analysis on the entire subject, which is now extremely topical.

7. See discussion on pages 21–22 of Michael Mainelli and Bob Giffords, *The Road to Long Finance: A Systems View of the Credit Crunch*, Centre for the Study of Financial Innovation, 2009. www.csfi.org.uk

8. In Claude Borio, *The Financial Turmoil of 2007–?: A Preliminary Assessment and some Policy Considerations*, BIS Working Papers No. 251, March 2008.

3. Determining financial institution exposure to the new credit markets

This section looks at bank exposure to credit losses and write-downs during the current crisis and the extent to which these were revealed by bank accounting statements. It makes an attempt to quantify such losses and highlights the lack of transparent and understandable disclosures.

Table 1 shows a summary of these losses and write-downs for a number of major institutions, for the years 2007 and 2008. The table has been constructed from the income statements, balance sheets and notes to the financial statements provided in the annual reports of 24 of the largest US and European financial institutions (the 21 largest banks together with Freddie Mac, Fannie Mae, and AIG). This table distinguishes three elements of loss and decline of net worth: (i) impairment losses both on loans and receivables and on credit assets classified either as available for sale (AFS) or as hold to maturity; (ii) write-downs of credit assets classified as trading assets; and (iii) reductions in AFS reserve, which in these years has largely arisen because of write-downs (but not impairment) of credit-related assets held as AFS.

The first two elements, impairment and write-down of credit exposures classified as trading assets, are taken in the profit and loss statement and lower reported profits. The third element, the fall in the AFS reserve, does not affect reported profits but does reduce net worth and capitalisation. Impairment of credit assets classified as held for trading cannot be calculated (the only reporting requirement is the total write-downs in the mark-to-market value). Impairment of available for sale, hold to maturity and loan and receivables are all included in the reported impairments.

The deduction from AFS reserve is not a deduction from profits but it is still important since reductions in AFS reserves the perceived capital strength of an institution and so can force a recapitalisation or lead to an insolvency.

The rows of the table are presented according the ratio of total credit-related losses and write-downs (including transfer to AFS reserve) to 2006 pre-tax income, as a way of scaling for the size of each institution. This reveals the substantial variation in exposure from one institution to another. The two government-sponsored agencies Freddie Mac and Fannie Mae have experienced astonishingly high levels of losses relative to their income. Because they were also poorly capitalised it is unsurprising that the US government has had to take them into 'conservatorship', ie to nationalise them, in order to prevent their insolvency. Four of the first nine institutions in this table have either been acquired or failed; while the other five have survived as going concerns only with substantial government support.

Table 1: Some bank credit-related losses and write-downs

Losses and write-downs in the 2007 and 2008 accounting years		Credit-related losses and write-downs ($bn)					
		Impair-ment (1)	Write Downs (2)	Total (taken through P&L) (3) =(1)+(2)	Decline in AFS reserve (4)	Total impact on net worth (5) =(3)+(4)	Ratio of total to 2006 pre-tax income (6) =(5) expressed as ratio
Freddie Mac	US	31	33	64	24	88	22.2
Fannie Mae	US	33	33	65	6	71	15.3
AIG (insurance)	US	56	90	146	22	168	7.7
Merrill Lynch	US	0	63	63	10	73	7.5
UBS	Switzerland	3	53	56	0	56	5.5
Lehman Brothers	US	31	0	31	0	31	5.2
Fortis	Belgium/NL	13	1	13	20	34	4.3
HBOS	UK	23	6	29	13	42	4.0
Citigroup	US	53	52	104	10	114	4.0
HSBC	UK	42	0	42	19	61	2.9
JP Morgan	US	28	13	41	0	41	2.8
ING	NL	3	5	7	31	38	2.6
Deutsche Bank	Germany	3	19	23	7	30	2.4
Barclays	UK	16	11	27	3	30	2.3
UniCredit	Italy	10	12	22	4	26	2.1
RBS	UK	17	18	35	1	36	2.1
Morgan Stanley	US	0	19	19	0	19	2.1
BNP Paribas	France	10	12	22	7	29	1.9
Bank of America	US	35	10	45	12	57	1.8
Credit Suisse	Switzerland	1	13	14	5	19	1.5
Credit Agricole	France	7	0	7	7	14	1.4
Santander	Spain	14	1	14	3	17	1.1
Société Générale	France	6	0	6	5	11	0.9
Goldman Sachs	US	10	0	10	0	10	0.7

Notes: This is a version of Table 8.1, published in Alistair Milne, *The Fall of the House of Credit*, Cambridge University Press, 2009. Column 3 is not always exactly the sume of columns 1 and 2 because of rounding. Source: annual reports 2007 and 2008. Impairment includes loan loss provisions and impairment of AFS and held-to-maturity securities. Write-downs are the loss in market value of credit assets classified as trading securities. The reduction in AFS reserves in these two years is largely owing to the loss in market value of credit assets classified as AFS, net of any impairment (impairment has to be netted off to avoid double counting). However the levels of AFS reserves are also affected by changes in the value of other AFS securities, not just credit assets, and by realised profits on sales of AFS securities; these are thus only an approximate estimate of the impact of credit exposure on net worth and (since these other factors will mostly increase AFS reserves) are most probably an underestimate.

This table illustrates the variation between institutions in the contribution of the three categories – impairments, write-downs on assets held for trading, and transfer to AFS reserves – to total credit-related losses and write-downs. To pick out some more extreme examples:

- ING has relatively low losses taken through P&L, but the very large write-downs on AFS securities taken through capital reserves undermined their net worth and required the government of the Netherlands to intervene and support ING through insurance guarantees on the value of its AFS securities.

- In contrast some institutions – eg RBS, Goldman Sachs, UBS – held very few credit-related securities as available for sale.

- HSBC and Bank of America stand out as having taken a traditional 'on balance sheet' approach to exposure to sub-prime and other riskier credit markets. Both these institutions have experienced high levels of provisions against on balance sheet loans (in the case of Bank of America part of these are 2008 losses on its acquisition of Countrywide). Neither of them had large exposure to traded credit assets.

- Other institutions – Merrill Lynch and UBS – made almost all their losses on their trading of credit-related securities.

The majority of banks, including Citigroup and the UK banks that got into most difficulties – HBOS, RBS and Barclays – had a mixed approach, with substantial credit impairments, write-downs of traded assets and, in addition, deductions from AFS reserves.

The total credit-related impairment and write-downs shown in column (5) if this table comes to just under $1.2 trillion. This is considerably less than the total credit write-downs and losses for the global banking sector 2007–10, estimated by the International Monetary Fund (IMF) as likely to reach $2.8 trillion.[9] There are two main reasons why the IMF reports a much larger figure. First, our table covers only 24 of the largest global institutions. Extending this analysis to include all banks globally would increase the reported numbers to over $1.5 trillion. Second, most critically, our table covers only accounting impairments and write-downs reported for the two years 2007–2008. The IMF anticipates a large amount of further impairment and write-downs continuing for the subsequent two years 2009 and 2010, especially through loan loss provisions. These take account of the impact of the sharp contraction in global economic activity in the final quarter of 2008 and first quarter of 2009, developments which were not fully reflected in end-2008 accounting statements.

The table reveals the ex-post exposure of these institutions. What about ex-ante? That is, what information could have been obtained from their published accounts, either before the onset of the crisis in the summer of 2007 or even at a later date, to reveal their total credit-related exposures? Our research assistant has spent a considerable time going through quarterly and annual accounting statements for 2007 and 2008. The outcome of this exercise was largely negative. First, before the crisis began, none of these institutions were revealing much detail about their exposures to credit-risky debt securities. Sub-prime and other relatively risky mortgage-backed securities were hidden within much larger categories of investment, eg mortgage backed securities MBS (including also the relatively safe US agency securities) or often simply as debt securities. This is a real problem, illustrating our point made earlier about the poor alignment of accounting statements with underlying business models and risk exposures. We have apples and pears in the same line.

Beginning with the annual reports for 2007, there was increased disclosure, with many institutions especially those from Europe, providing detailed information in notes to their accounts on some aspects of their credit-related exposure. But there was no uniform approach. Sometimes the disclosure relates to AFS securities with no statements at all about trading book securities. In other cases the disclosure relates to trading book with no breakdown or information on AFS. This disclosure is usually at fair value but sometimes at amortised cost. Detailed numbers are provided for some specific categories, eg ABS-CDO, with losses broken down separately, but other categories of exposure are often combined. Counterparty exposure to monoline insurers – such as AMBAC and MBIA, from whom many institutions have purchased insurance against credit loss – is sometimes, but not always, reported.

Despite some effort on our part, it seems impossible to reconcile the stated write-downs and impairments given in Table 1, with the disclosures on exposure. The disclosures seem far too small to have generated all the impairment and write-downs. This suggests that even now what is being revealed about the total level of exposure is partial.

Another major shortcoming is that, in the case of traded assets, there is no reporting of impairment (arrears and defaults) of the underlying pools of credit assets. Thus no judgment can be made from the accounts of the extent to which these write-downs are a result of fundamental credit losses or other loss of market value that is perhaps liquidity related and thus might be expected to be temporary. Yet this information is provided for available for sale assets. This inconsistent treatment of AFS and trading assets is one of the main factors that prevents comparison of the credit exposure of different institutions. Impairment of AFS assets is reported, but there is little information on the assumptions underlying these calculations, assumptions that can differ widely from one institution to another.

9. See Table 1.2 of *Global Financial Stability Report*, International Monetary Fund, October 2009, http://www.imf.org/external/pubs/ft/gfsr/2009/02/index.htm

While there is some information on senior executive remuneration, the published accounts say relatively little about other aspects of remuneration, notably bonus arrangements for staff working on trading desks. Many institutions provided some scattered information in notes to their accounts. Some, for example Deutsche Bank, emphasise the extent to which their bonus arrangements are based on long-term averages of trader performance and can be clawed back in the event of subsequent losses. But it is difficult to get a consistent picture from published accounts.

This does not mean that accounting statements were without useful content. Careful examinationg of available accounting measures would have drawn attention to the following problems.

(i) The extent to which commercial banks have relied on wholesale rather than retail funding and on debt funding rather than equity capital. As mentioned above, obvious examples are Countrywide Financial and Northern Rock.

(ii) The rapid increase in the trading portfolios of some investment banks. Merrill Lynch and UBS are the most obvious examples, although their accounts even post crisis did not properly distinguish credit exposures of different types within their trading books. A feature of both these strategies (large reliance on wholesale funding and rapid expansion of traded assets) is that they were associated with relatively rapid growth of earnings.

(iii) High and increasing leverage that was especially pronounced in many investment banking operations.

(iv) The possible existence in some institutions of a relationship between increased remuneration of senior executives and both greater leverage and rapid expansion of assets.

All these issues are potential topics for future research, and we provide a preliminary investigation of senior executive remuneration policy in the following section.

To conclude, published accounting statements gave no indication of exposure to credit risk prior to the crisis. Even afterwards they provide little direct information other than the level of impairments and write-downs about such exposures. But there are some other accounting measures (wholesale funding and leverage, growth of trading books, senior executive remuneration) that might have been used to predict problems.

4. Senior executive remuneration

We have conducted a preliminary analysis of senior executive compensation in 19 of the world's largest banks. The objectives of this work were to:

(a) establish what data on senior executive compensation is reported and identify any prominent or surprising features of these numbers for a small sample of banks

(b) document if there has been very rapid increase of senior bank executive pay in this sample of banks over the period 2001–07, especially relative to dividends and earnings, and

(c) identify some issues for further research that could either be explored using data of this kind or which are raised by this data.

This is not a complete review of the sometimes heated discussions of remuneration policy in banking. These have been addressed in a number of official reports, for example the Walker review published on the HM Treasury website (final report November 2009), which included in its remit the examination of 'the effectiveness of risk management at board level, including the incentives in remuneration policy to manage risk effectively'.[10] It is worth here distinguishing two quite separate issues (even though we discuss neither of these any further):

- The role of remuneration arrangements in encouraging excessive risk taking in financial institutions. The policy community has addressed this concern. New implementation standards for remuneration practice were agreed at the Pittsburgh meetings of the G20 in September 2009. The goal of these standards is not to intervene in the levels of remuneration but rather to ensure that the form in which remuneration is given does not create incentives for risk taking in order to earn short-term profits. These standards are being implemented in the UK by the Financial Services Authority (FSA) beginning in January 2010 and they have been broadly welcomed by major banks.
- The quite different concern with high levels of remuneration in the banking industry. The level of bonuses remains a highly controversial and politically sensitive subject. The rapid recovery of investment bank revenues, and the prospects for high levels of annual bonus payments for 2009, even while the real economy continues to be in deep difficulties, has led to a considerable public backlash against the level of bonuses; this is one reason why the Obama administration has very recently decided that it should pursue some form of restrictions on investment banking activities, of the kind promoted by former Federal Reserve Chairman Paul Volcker.[11]

Our concern is purely factual. We ask: what was the level of remuneration provided to senior management in our sample of banks, and how has this changed over time?

DATA COLLECTION

Our research assistant has collected data on senior executive pay for 19 banks for the years 2001–07, by downloading annual reports and typing the data on compensation into a spreadsheet. She also collected information on dividends and on pre-tax earnings from the Bankscope CD-Rom database.[12]

The choice of the 19 banks was somewhat subjective, but based on two main criteria. We chose banks from two main groups: large global investment banks including the European commercial banking groups that now earn a large share of revenues from their global investment banking franchise; and large US and European commercial and corporate banks (many of which also have large investment banking subsidiaries). Within each group we

10. See http://www.hm-treasury.gov.uk/walker_review_information.htm

11. Volcker's views are laid out in his statement to the joint economic committee of the US Congress of 26 February 2009 (downloadable from http://jec.senate.gov/index.cfm?FuseAction=Hearings.HearingsCalendar) and in the G30 report that he chaired (http://www.group30.org/pubs/reformreport.pdf).

12. Bankscope is a standard accounting database published by Bureau Van Dyck.

chose banks with the largest assets by dollar value at end-2007. We also included the much smaller Northern Rock, because of the particular interest in the fate of this UK bank.

This sample is fairly small. While there has been substantial growth of executive compensation in all these banks especially towards the end of the period 2001–06, there are also very great differences between banks. Some have a relatively low rate of growth of senior executive remuneration, some extraordinarily high.

This implies that, in order to fully document what has been happening to senior executive pay, across the entire industry, a much larger sample would have to be analysed. The time series is also short. Executive compensation is highly cyclical and therefore extremely difficult to distinguish the cyclical increase in bank earnings and executive compensation over the years 2001–07 from any trend increase in compensation.

In our view data on at least 50 banks for a longer period of time would be necessary to make totally reliable claims about the industry as a whole. For statistically based research, for example about the relationships between senior executive compensation and bank behaviour, an even larger data set would be desirable, although probably unattainable.

The data of the US banks is presented in a consistent manner, as required in SEC reporting and reflecting strict US disclosure rules established in the wake of the dot.com and technology IPO scandals. Annual reports disclose the number of executive directors and six elements of their compensation: (a) salary, (b) bonus, (c) stock awards, (d) option awards, (e) value and non-qualified deferred compensation, and (f) all other compensation.

European banks report less and in a more heterogeneous fashion. Salary and bonus are sometimes reported together. UK banks have made rather limited disclosure of stock and option awards, often this information is only revealed in the most recent couple of years and there is no standard reporting template, so there might, for example, be information on share awards to the chief executive but not to other executive directors. In the case of Société Générale the number of directors is not identified and there is no breakdown between salary, bonus and share-based payments. We have no compensation data for Deutsche Bank prior to 2003, Credit Suisse in 2001 or 2006, or for Société Générale in 2001. In order to produce the indices, reported below, we have interpolated these missing data points using total pre-tax income.

Banks also provide in their annual reports a narrative account of the criteria for calculating senior executive bonus and share payments. We do not analyse this information here.

DATA ANALYSIS

We have prepared four summary series for each bank, where available: salary payment, bonus payment, share based compensation and other compensation, together with the data on number of directors, dividends paid and net income. Our accounting based data does not allow us to look at other elements of the compensation package, eg deferral of payments, or at bonuses for other employees.

We have investigated the following, looking both at cross-section (differences between banks) and time series (change over time):

- the level of overall senior executive remuneration (including share based remuneration where this data is available)
- the ratio of bonus payments to salary
- the growth of senior executive remuneration compared with dividends and of pre-tax earnings.

The level of overall remuneration varies hugely between banks, as indicated in Table 1 with the highest rewards in the pure investment banks and among commercial banks in the United States. The universal European banks with large investment banking franchises – Deutsche, UBS and Credit Suisse – offer their directors much greater compensation than other European banks, but this compensation is considerably less than in the US broker dealers (Goldman Sachs, Morgan Stanley and Merrill Lynch).

One health warning should be made. We have full information on share-based compensation (deferred payment in form of shares and share options) only for the US banks and for UBS and Credit Suisse. For all these banks share-based compensation is a very substantial part of total senior executive remuneration, typically between 40% and 60%. Our scattered information that we do have on share based remuneration suggests that this form of compensation is much less important for other banks that do not report it fully. For example, it is about 10% of total compensation in BNP-Parisbas and in HBOS, compared to figures of 50% or more found in many US banks. If this is also true for the other banks that do not report fully, then its omission will not seriously affect our comparisons. But it is possible that we are understating directors' income because this information is not recorded in annual reports, or misstating growth because it appears in later years but not in earlier years.

Table 2 reveals that the growth of average compensation per director over the period also varies enormously among the different banks. While there is no common pattern, some interpretation can be offered of some of these numbers (there is something of an individual story behind every bank). In the case of HSBC there is a clear break in its executive compensation, which remains stable at around $1 million per executive until 2004 and then jumps to $3.57 with the introduction of some very big cash bonuses (relative to previous levels) and grows even more in 2007.

Table 2: Average compensation per senior executive for the 19 banks

	Name	Average compensation per senior executive: Average level ($'000) 2001–07	Growth (%) 2001–06	Share of basic salary in total remuneration (%)
1	Bank of America	8,843	314	11
2	Barclays	3,437	334	40
3	BNP-Parisbas	1,940	155	43
4	Citigroup	17,631	63	4
5	Crédit Agricole	1,122	248	64
6	Credit Suisse	8,363	185	65
7	Deutsche Bank	8,209	–5	15
8	Goldman Sachs	25,487	327	3
9	HBOS	1,805	191	56
10	HSBC	4,519	523	61
11	JP Morgan	16,910	156	4
12	Lloyds TSB	1,992	290	62
13	Merrill Lynch	20,700	291	2
14	Morgan Stanley	20,786	175	2
15	Northern Rock	1,845	483	75
16	RBS	3,532	223	41
17	Société Générale	1,405	184	na
18	UBS	13,842	325	10
19	Wells Fargo	9,612	134	11

Northern Rock is another special case with very rapid growth but from a low base compared to other UK banks. By the end of the period the Northern Rock directors were being rewarded at a similar level to the major UK commercial banks RBS and Barclays and at a much higher level than at other UK mortgage banks such as HBOS and Lloyds-TSB.

Deutsche Bank stands out for having a relatively conservative compensation culture. Although the average compensation per director is comparable with that at Credit Suisse it is extremely stable over the period 2003–06 for which we have data, even while Deutsche Bank revenues grew rapidly.

The final column of Table 2 shows the percentage of total compensation accounted for by the director's cash salaries. For JP Morgan, Citigroup, and the US broker dealers (Goldman Sachs, Morgan Stanley and Merrill Lynch) cash salary is less than 4% of total compensation.

In these banks almost all elements of compensation are the other performance related elements. For Bank of America, Deutsche Bank, UBS and Wells Fargo, it is in the range 10–15% of total compensation, so still relatively small relative to performance related compensation. For other banks the cash salary is a large part, often the majority, of total compensation. The contrast between UBS and Credit Suisse is striking.

There were substantial declines in this percentage which falls by around one half over the period 2001–07 for those banks where other performance-related elements of compensation rise sharply, namely Barclays, Credit Suisse, HSBC, Lloyds-TSB and Northern Rock. For JP Morgan, Citigroup and the US broker dealers the ratio is so small that changes over time are not very meaningful. For the remaining banks salaries are a surprisingly stable proportion of total director remuneration (surprising because the remainder of the remuneration package such as cash bonuses and share payments should not be stable).

While we do not report numbers here, we note that there is considerable variation in both the numbers of executive directors and in the percentage of total pre-tax earnings accounted for by compensation to senior executive directors. The number of executive directors ranges between four and ten (the Swiss banks in particular seem to like large numbers). The total compensation paid to all senior executives varies as a percentage of total bank pre-tax earnings from as low as 0.02% (Credit Agricole) to as high as 2.5% in Credit Suisse and Morgan Stanley. This ratio is high for all the specialised investment banks. For the majority of other banks this ratio is in the range 0.10–0.50%.

Table 3 presents indices of executive compensation, dividend, and pre-tax earnings. These are unweighted averages across the entire sample of 19 banks, with a base of 2001=100.

Table 3 : Indices of executive compensation, dividend, and pre-tax earnings for the 19 banks

	Total senior executive compensation	Dividends	Pre-tax income
2001	100	100	100
2002	110	110	125
2003	141	145	188
2004	173	193	222
2005	203	201	257
2006	272	250	364
2007	229	274	201

From this table it can be seen that between 2001 and 2006 senior executive compensation has grown at close to the same rate as dividends. Until 2006 it grew more slowly than total pre-tax income. In 2007, while the level of dividends was maintained, executive compensation fell sharply and pre-tax income fell by even more. This is mainly because this sample includes Citigroup, Northern Rock, Merrill Lynch and UBS, all of whom experienced sharp income declines in 2007 and reduced senior executive compensation as the credit crisis began to affect the industry. But it is noticeable that the overall decline in compensation is much less than the overall decline in pre-tax income, suggesting something of a ratchet effect, with executive compensation falling much less rapidly in periods of weak performance than it rises in periods of strong performance.

Has the growth of senior executive compensation been excessive? There are individual banks, notably Barclays, Goldman Sachs, Lloyds TSB and Northern Rock, where senior executive compensation grew much faster than dividends and pre-tax income, at least until 2006. It also grew rapidly at UBS and at Merrill Lynch; but there, at least until 2006, pre-tax earnings especially grew even faster. But the overall picture is that, while total senior executive compensation has grown very fast over the years 2001–07, in most of these banks this growth is not clearly more rapid than that of either dividends or pre-tax earnings.

This is a rise that we know now to have been cyclical not a permanent structural increase in the profitability of banking. What this suggests, as a hypothesis for further research, is that neither the level nor the growth rate of senior executive compensation may be a concern in themselves. But that senior executive remuneration may be responding, to far too great an extent, to short-term changes of bank earnings and share prices and be only loosely related to the long-term corporate performance which creates shareholder value.

It will also be of interest to see the 2008 data that will be available in 2009 to see how far senior executive earnings decline. A further hypothesis to explore is as we have noted the presence of a ‘ratchet effect’ where cyclical booms raise senior executive compensation but that it falls relatively little in the subsequent downturn.

5. Topics for future research

The intention of this concluding section is not to cover all possible research topics relating to the current crisis, but to focus on research related to accounting standards, accounting practice, corporate governance and the use of accounting and other financial information for regulatory purposes. All these seven topics, in our view, need to be pursued in order to help academic commentators, practitioners and policy makers reach a consensus on how to prevent a recurrence of the current crisis.

1. COUNTERPARTY AND BANKRUPTCY PREDICTION MODELS

There is room, limited by the extent of disclosure in accounting statements, for further research on the determinants of bank performance and bank failure in the credit crisis. We might be able to improve the predictive ability of such models by incorporating variables that capture liquidity aspects, both on the assets side (lack of deep and active markets in which certain financial assets can sold) and lack of liquid markets for borrowing and funding purposes. However the very limited information on asset holdings, within the broad divisions of debt and equity, limit this avenue of investigation. There could be an investigation into whether aggressive dividend and stock repurchase programmes, or excessive leverage, were precursors to liquidity problems.

While there is only limited information in published accounts there is still scope for using econometric investigation to examine these relationships.

2. THE ROLE OF EXECUTIVE AND FIRM-WIDE COMPENSATION IN BANK DECISIONS AND RISK-EXPOSURE

Our initial exploration, in Section 4, is descriptive and limited to a small number of institutions. There are further questions, which we do not investigate, about the effect of compensation arrangements on business decisions and risk exposure. In particular, was senior management, at least in some cases, incentivised to move away from the old banking model (ie, taking deposits and making loans) in favour of speculation and emphasis on investing and trading in short-term securities? Again, however, the limited amount of available data, and the usual difficulties of disentangling cause and effect, means that it will be far from easy to distinguish econometrically the impact of remuneration arrangements.

There is some scope for econometric examination of some more specific associations. For example, available data should help determine whether managers' compensation has been more closely linked either to long-term assets (measured at cost) and net interest income, or to short-term trading assets (measured at fair value) and capital gains. What is the relation observed at firm level between the entire wage bill and type of assets in the balance sheet?

It should also be possible to investigate the relationship between growth in compensation, growth in earnings and dividends and growth in market capitalisation. It will be possible to investigate the specific hypothesis, mentioned above, of a 'ratchet effect', whereby senior executive compensation grows relatively rapidly in periods of rising earnings and stock values, but is reduced only modestly in periods of falling earnings and stock values.

These studies will need more extensive data sets, for longer periods and for more financial institutions. The main problem with the data is going back far enough in time and with coverage of non-US institutions, since there is relatively little disclosure of senior executive compensation before this was required in the US by the SEC reporting standards.

3. THE ADEQUACY OF FAIR VALUE ACCOUNTING STANDARDS FOR COMPARING PERFORMANCE

A key function of accounting statements is to allow analysts and investors to compare performance, both between firms and for individual firms over time. It will be valuable to engage in a detailed study, based on interviews and questionnaires of banking analysts and buy side investors, of the appropriateness of current standards (those already implemented or expected to be implemented). Broad questions that might be investigated include whether the broad classification of assets by intent in IFRS 9 (hold to maturity versus trading assets) is useful to investors or can potentially get in the way of analysing bank performance; similarly whether the classifications into level 1, level 2 and level 3 valuations are helpful to investors.

It may also be worthwhile conducting similar interview and questionnaire-based analysis of a retrospective kind, investigating whether the weaknesses of IAS 39 did, as is sometimes alleged, distort measures of income and net worth, and if this is the case, the extent to which this may have played a contributory role to the balance sheet pressures faced by many banks and some insurance companies in the global financial crisis.

A related topic that could be explored in the same research is how the construction and accuracy of earnings forecasts are affected by the use of fair value in banks and how this relates to their business model (eg, extensive use of securitisation)? To what extent is forecast accuracy related to the use of FV accounting? Do analysts incorporate risk measures reported by banks into their forecasts and estimations? Does fair value accounting give banks more or less scope than before to control quarterly earnings?

4. THE VALUE AND RELEVANCE OF FAIR VALUE ACCOUNTING AS MANAGEMENT INFORMATION

A similar survey and questionnaire-based research could be used to examine the existence of the conflicts between fair value accounting, notably the requirements of IAS 39, and the way banks manage their business. Have FV rules constrained banks' operations and risk management policies? What is the resulting cost to banks of such proclaimed inefficiency?

The same approach could also be applied to investigating the appropriateness of current accounting information in the context of bank corporate governance. Do board members, notably non-executives, have the appropriate information to do their jobs? What other information could be provided and in what form?

More specifically we see scope for careful examination of the procedures used for valuation of illiquid securities and derivative instruments and whether accounting measures provide management with all that they need to know to effectively manage these exposures.

5. THE INTERACTION BETWEEN ACCOUNTING AND BASEL II AND SOLVENCY II RULES

The increasing focus on capitalisation and regulatory capital requirements generates a further set of questions. What is the value relevance of capital adequacy measures (ie, is there evidence that investors obtain information from regulatory measures of capital that help them value banks or other financial institutions and assess their performance or risk exposure?). To what extent are there conflicts between FV rules and Basel rules? How have banks resolved these and what is the resulting cost or benefits to bank shareholders? What determines risk, as perceived by the market? Is this largely driven by volatility in reported earnings/equity or is it more related to balance sheet measures of risk and capitalisation, such as those prescribed by Basel?

The increasing emphasis on capital requirements for pension funds and insurance companies also suggests there is a need for further investigation of the role of capital requirements in financial services other than banking. What are the issues that arise for insurance and pension fund regulation, eg Solvency II, and to what extent are they the same as in banking? Is it possible and appropriate to use similar measures of capital for insurance and pension exposures as for banking, and will this assist in the comparison of the activities of firms that are involved across the full range of financial services?

While these are major questions it is not entirely clear how they might best be researched. These are perhaps best explored, in an initial basis, through seminars and conferences, to promote exchange of views on these issues, which may in turn identify researchable questions.

6. THE ROLE OF ACCOUNTANCY RULES AND REGULATION IN THE FUNCTIONING AND LIQUIDITY OF NEW MARKETS, ESPECIALLY FOR TRADED CREDIT

One priority for recovery of the banking system is restoring activity in the markets for the more basic traded credit instruments. This raises the questions of whether accounting rules have played a role in the evaporation of liquidity in these markets (in our view they have not, but the question is still controversial and needs further study); how best to value illiquid instruments; and whether changes in these rules might promote greater liquidity. Once again, it is unclear how these questions are best researched. Initial exploration through seminars and conferences may be the best first step.

7. THE LENGTH AND COMPLEXITY OF THE ACCOUNTING STATEMENTS OF FINANCIAL FIRMS AND HOW THESE CAN BE RECONCILED WITH THE NEEDS OF USERS

Financial statements are already very long and complex, especially those issued by banks and other financial institutions. Our analysis has suggested that there needs to be much greater disclosure, especially of returns and risks broken down by business line, of potential liquidity risks, and of remuneration. This is necessary both for effective corporate governance and for regulation. Investors who are assessing a firm purely from the financial perspective do not need the same level of disclosure, although (as we have argued above) they may wish to be given sufficient underlying information that will allow them to rework accounting statements to make them more comparable between institutions or over time. This raises the question of how best to reconcile these different disclosure requirements, and also whether there should not be separate additional reporting requirements for financial firms, not applicable to non-financial companies. We believe there is considerable scope for interviews and discussion with users of accounts, including financial analysts, regulators, activist shareholders, rating agencies and others to explore how their different needs can best be met.

The seven topics are all worthy of future work, but we can conclude by emphasising the need to apply a variety of different research tools and methods. Some of these topics (bank failure, determinants and impact of staff remuneration) are appropriate for exploration using econometric tools. Others (usefulness of current accounting statements to investors, and their role in management information and in corporate governance) may also be explored through interviews and questionnaires. Yet others (the use of accountancy measures in capital regulation, the reporting of illiquid instruments) may be best advanced through networking and interaction with practitioners and policy makers.

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