

On the Concept of Bank Capital and its Use

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The first thing to remember is that no one size fits all. For example, universal banking may be good in some of the countries and in some of the situations, and not so in others. The second thing to remember is that some regulations, arguably, have been behind the curve...

-Dr. Duvvuri Subbarao, Governor of the Reserve Bank of India, 10 December 2008

Overview

The following essays the concept of capital and its manipulation within our current banking oversight regime. The main criticism offered is that the concept of capital is poorly conceptualised and therefore weakly applied, particularly by the Basel Committee. The main remedy is that a concept is simply conceptualised and that the regulations are adapted to reflect this. It is suggested that a better understanding of the concept of capital and capital adequacy will see us move back a little in history towards a 'less sophisticated', simpler regime. In the context of this broad criticism other details are offered for consideration. In the first part some of the problems of the definition of capital as set out by the Basel committee are highlighted. In the second part some of the reasons for why the committee may have implemented a flawed conception are explored. In the third part the author offers up the essentials of his own vision of capital and some radical thoughts: a liquidity reserve rather than equity is the primary consideration for capital; adequacy requirements should not be considered as static legal limits but as the active monetary policy tools that they are. Finally a tentative suggestion is made as to how this alternative conception of capital might have an impact on our current problems: perhaps the recognition of negative capital adequacy is warranted. One way or another it is the longer term implications that are more interesting and more vital. It is suggested that we might be at the beginning of a process to remake our concept of capital but only if we set aside our interests and think. The framework of debate must be challenged.

1. Discovering the concept of capital

The concept of capital is in disrepair. The concept of bank capital is in particular disrepair. There are too many ideas surrounding it and little clear usage of the concept. Everyone has general notions of what capital is: it buys equipment; it is what the capitalist uses and earns a return on; it owns equipment. There are also more precise definitions of capital which are yet unsatisfactory: capital is “cash or goods used to generate income by investing”; or capital is “the net worth of a business”¹. Though it would not be wrong in ordinary conversation to use either of the preceding definitions one should at least notice the fact that these two definitions are mutually exclusive under accounting terms. In the first case capital is defined as being an accounting asset. In the second case capital is being defined as an accounting ‘liability’; capital is equivalent to a notion of equity. The danger with a word like capital is that it is used on many different occasions in many different ways. Unfortunately it is one of those words that has been used so often that everyone thinks that everyone else shares their own vague (or precise) notion of what capital is without necessarily having a consistent understanding of the concept, or checking that anyone else does. It is acknowledged by many that “capital is an extremely vague term whose specific definition depends on the context in which it is used.”² The troubles extend into ‘professional’ use by bankers, accountants and economists and communication between the different professions. Consider the idea derived from economics that capital is a “measure of the accumulated financial strength ...created by the sacrificing of present consumption in favour of investment to generate future returns”³. Does this translate into a concept usable by accountants? On a company level it is possible in this case that this would be equivalent to the idea of retained earnings. Even if it were, it might be necessary to distinguish retained earnings from equity in general; or distinguish retained earnings from revaluation reserves. Beyond

¹ Investorwords.com

² Investopedia.com

³ Businessdictionary.com

this it is not even necessary that we should be happy that reinvested accounting 'earnings' are equivalent to 'savings'. Other definitions, such as that which describes capital as a 'factor of production' would be even more difficult to reconcile with other disciplines without some care. There is no particular reason that a given word should not have several different and distinct meanings. Sadly in the case of 'capital' many meanings have been used and confused; its use in many places has become unhelpful. Its use in banking is such a case and its confusions mirror those expressed elsewhere.

In communications the most invidious problems arise when a word such as "capital" is used in technical contexts, where a well thought through concept is supposed to support high level usage but where it is not clear that one exists. Such is the case in banking and in the Basel Accord. The Basel Committee has gone to great lengths to say what capital is, in technical terms, and to define it practically. It has broken the notion down into Core Capital and Supplementary Capital. It has set out in great detail what might be counted as capital and under what conditions. In core capital, for example, consolidated reserves, retained earnings, goodwill and many other things might be included; formation expenses, holdings of own shares and many other specified things *might* be excluded⁴. There are numerous, detailed guidelines for adjustments that have to be made to quantities of substances included in capital. For example some "deeply subordinated notes" are excluded from Tier 1 capital and included in Tier 2 capital "because they are in excess of the 15% limitation [on Tier 1 capital inclusion] as defined [in] Annex 17". In another case "guarantee funds" are included in tier 2 capital "under conditions set in Regulation n°90-02 of the *Comite de la Reglementation Bancaire*"⁵. For all the detail what is lacking is the clarity of a well thought through concept that underpins the Basel image of capital. It is hard to find an explicit and thorough conceptualisation of the concept of capital anywhere in recent Bank of International Settlement literature. The notions are implicit. If there is a concept of capital it seldom appears to determine or guide the construction of finer Basel definitions; it seldom appears to determine adjustments to the Basel regulations

⁴ Depending on whether or not a bank's accounts IFRS compliant

⁵ Commission Bancaire, *Methods for Calculating International Capital Adequacy Ratios*

through the course of time. An example of this may be seen in the treatment of goodwill. Prior to 1998 goodwill was deducted from core capital⁶ and therefore wholly excluded from it. By implication no goodwill should reside in core capital. It is not clear when or how the transition takes place but by 2004 only 50 per cent of goodwill is deducted from core capital with the rest being deducted from supplementary capital⁷. One reason that makes it unclear is precisely the lack of justification for the inexplicit change in the definition of the concept of core capital. Without justification it is not apparent whether the *original* concept of capital, if indeed there was one that underpinned the exclusion of goodwill from core capital, can really accommodate even a limited inclusion of the same goodwill in core capital. Argumentation and adjustment in what should and should not be counted in core capital or supplementary capital makes little sense in the absence of an understanding of what the concept of capital or core capital is. Adjustments to what should and should not be counted as capital in the Basel Frameworks change and change all the time without being anchored to a consistent concept of capital.

Sifting through the Basel Frameworks one can see the residual of a concept of capital. A concept exists but is dealt with feebly. In discussions on the definition of Tier 1 capital the 2004 Framework mentions that: “converging on a uniform international capital standard under this Framework will ultimately require the identification of an agreed set of capital instruments that are *available to absorb unanticipated losses on a going concern basis*”⁸. Leaving aside the oddly tentative tone for such a ‘definitive’ document, the statement indicates one of the *qualities* of capital: it has the property of being able to absorb unanticipated losses on a going concern basis. It remains odd that more emphasis is not made of the quality; that it is not obviously the basis of

⁶ Basel, *International Convergence of Capital Measurement and Capital Standards* – July 1988, updated to April 1998. In point 24, or Section I.(c)(i) goodwill is clearly listed “as a deduction from tier 1 capital elements” without any exempting conditions.

⁷ Basel Committee on Banking Supervision, *International Convergence of Capital Measurement and Capital Standards* – a revised framework June 2004

⁸ Basel Committee on Banking Supervision, *International Convergence of Capital Measurement and Capital Standards* – a revised framework June 2004 [my italics]

more regulations; or even that other qualities of capital are not explored. Agreeably, a similar quality of capital is highlighted in the 1998 framework, in a discussion of provisions and reserves. In this earlier case the quality was highlighted in a more assertive way:

“Where, however, provisions or reserves [which are suspected of being capital] have been created against identified losses or in respect of an identified deterioration in the value of any asset or group of subsets of assets, they are not freely available to meet unidentified losses which may arise elsewhere in the portfolio and [therefore] do not possess *an essential characteristic of capital*. Such provisions or reserves should therefore not be included in the capital base”⁹.

It is in passing that an “essential characteristic” of capital are revealed: in a side discussion about the impact of provisioning. Little attempt is made to reconcile the *Essential Characteristic* to resultant definitions in other places, or to use the essential characteristic[s] as a test rule in further other cases. Little is done on what other essential characteristics capital might have. The 2004 Framework does offer some apology for future work being required on the definition of eligible capital, it being “one area where the Committee intends to undertake more work of a longer term nature”. Yet it is odd that this needs to be admitted given how assertive it was in the knowledge of what the ‘essential characteristics’ of capital were in 1998. Also as the explanation of provisioning from the 1998 Framework above suggests, if the essential characteristics or qualities of capital are known and defined, in many cases the definition of eligible capital can be swiftly judged, so the development of the essential qualities or characteristics of capital happily proceeds the definition of what is eligible to be called capital.

Besides dealing weakly with the concept of capital the Basel Committee deals not consistently. It shies away from pronouncements on capital itself; the concept of capital is taken on only in reflection upon a practical matter; and given the lack of an explicit vision there is little consistency in the concept. In a recent discussion on SIVs the Basel Committee makes the following point:

⁹ Basel, *International Convergence of Capital Measurement and Capital Standards* – July 1988, updated to April 1998 [my italics]

“...SIVs generally do not seek to have 100 per cent of their liabilities covered by liquidity support agreements. Instead, they hold a small amount of liquidity support and enough capital for the SIV to unwind its portfolio without inflicting losses on its debtholders”¹⁰.

Once again one is exposed to a similar *quality* which capital is supposed to have: it is supposed to be able to absorb losses. However the view on capital has been prompted involuntarily, as a consequence of a discussion on SIV practice. Moreover this conceptualisation is not easily consistent with previous ideas of capital explored in the Frameworks. Since the passage explicitly states that capital should allow an unwinding to take place without inflicting losses on debt holders the concept might be reconciled to that of core capital. On the other hand it is distinct from supplementary capital; it is distant from the idea of the going concern basis; and it is unclear whether the losses may be expected or unexpected.

2. Disconceiving capital and notions of its adequacy

Unfortunately we arrive at regulations and orders by more circuitous routes than we would wish. An illustration of the problem can be found in the debate on the acceptability of International Accounting Standard 39 (IAS 39) which governs much of the treatment of financial assets and liabilities, including hedging instruments and provisioning. In the debates conducted in 2004 on whether or not the E.U. should endorse IAS 39 there were two distinct sets of objections. The French banks focused on the accounting for hedging instruments; the Spanish and Slovenian banks voiced concerns about the rules on provisioning. The Spanish objection was that the rules on provisioning might have a pro-cyclical effect and were therefore imprudent. This worry had a thoughtful foundation and supported a cautious regulatory approach. It may be worth bringing up later as we look into the purpose of capital. On the other

¹⁰ Basel Committee on Banking Supervision, *Credit Risk Transfer: developments from 2005 to 2007* (2008)

hand the French objection was purely selfish: French commercial banks did not want to have to recognise losses on hedges in place which secured margins on their long term fixed interest rate mortgage products. The issue of hedging for long term fixed interest rate products concerned French banks because they offered these products widely in their markets, whereas other banks in other markets, such as in the U.K. and Germany, did not. In the end the French commercial objections (rather than the quiet Spanish objections) triumphed and delayed the acceptance of IAS 39¹¹. Perhaps this is no surprise, but politics and profitability end up determining many things that ought in theory to be based on prudence and thought. Politicians recognise the power of the normative status granted to principles such as 'Generally Accepted Accounting Principles' and inevitably weigh in with opinions in the same way that they debate legislative bills. In 2001, Gerhard Schroder, the then Chancellor of Germany did just this, pronouncing the Basel II regulations as "unacceptable to Germany". Schroder was objecting to the penal risk weighting Basel II regulations put on loans to small and medium sized companies. In Germany this influential business sector encompasses what is known as the "Mittlestand". Much like the French objection to hedge accounting rules the objections were based on fears about the sustainability of an existing business model or practice in the face of a cautious supervisory regulation. In each case a particular political group argued for a shelter from or an easing of rules, largely without reference to the reasoning that underpinned the regulation: an idea of financial prudence. Coming back to the Basel Accord Frameworks themselves, one can see the tell tale admission of conceptually compromised thinking in some significant and politically charged places:

"The Committee carefully considered the possibility of requiring deduction [from regulatory capital] of banks' holdings of capital issued by other banks.... Several G-10 supervisory authorities currently require such a deduction to be made in order to discourage the banking system as a whole from creating cross-holdings of capital.... The Committee is very conscious that such a double-gearing (or "double leveraging") can have systemic dangers for the banking system by making it more vulnerable to the rapid transmission of problems from one institution for another...

¹¹ N. Sawyer, *French Triumph on IAS 39*, Risk Magazine, August 2004, Vol 17, No.8

Despite these concerns, however, the Committee as a whole is not presently in favour of a general policy of deducting all holdings of other banks' capital, on the grounds that to do so could impede significant and desirable changes taking place in the structure of domestic banking systems."¹²

The admission that the Committee might allow a 'systemic danger' to lurk in the banking system would have been shocking if it had not been for the events of the last two years. It is clear from this that certain rules were formulated with 'policy' rather than 'regulation' in mind. The policy assumptions are not made explicit and one can only guess what the "desirable changes" hinted at were. Would it have involved the 'consolidation' of local banking and financial institutions? What is clear is that writing policy assumptions into regulations can easily embed systemic dangers into the banking system. Regulation should not be part of the problem. Rules should not be dangerous.

The true enemy of prudence in our financial world is time and history: it is natural for history to act upon the concept. The original Basel Accord and Framework had a great beneficial impact on world financial markets, regulating it and standardising it. However, under the weight of the detail of the regulations, with the politicking of interested factions and as a result of the stability that the regulations themselves have helped create, the conceptual underpinning of the Basel Accord has been debased. Contrary to the statement in the 2004 Framework that "more work of a longer term nature" needs to be done to work out the definition of eligible capital, one feels rather that we once had a more assertive definition of capital based on essential characteristics and that this has been decayed with time. *Structurally* very few participants have incentives to make the regulations more stringent or less historical. There were and are plenty of worldly interest groups pushing for more lenient rules in many different areas: the Mittelstand in Germany (SME risk weightings); mortgage lenders and consumer interest groups (mortgage risk weightings); Banking M&A bankers (deductions of subsidiary capital from consolidated capital bases); financial

¹² Basel, *International Convergence of Capital Measurement and Capital Standards* – July 1988, updated to April 1998

supermarkets (risk weightings for 'credit risk transfer'). Structurally the regulator itself has a limited incentive to push for stringent regulation in an environment in which they are a new standards provider. If requirements are harsh, constituents will not subscribe to the new regulation. The reforms to the first Basel Accord came as a result of criticisms that the Accord was not sensitive enough to 'particular' market risk and that this might restrict lending 'unnaturally'. The uptake of the first Basel Accord was therefore sluggish. On the contrary the Second Accord makes a structural bid to be 'accommodating' by allowing and even encouraging the use of internal risk modelling to assess particular portfolio risk. The Committee introduced flexibility under the guise of the belief "that [a] "one size fits all" approach is inconsistent with the Committee's efforts to introduce more risk sensitivity in its risk categories"¹³. In fact this defeats the point of creating standards. Partly to compensate for a compromised regulatory framework regulators have an incentive to maintain or increase their scope of expertise through the development of more complicated and detailed, though not necessarily better, regulations. Without a broad acceptance, Basel has no mandate. With a broad acceptance, are firm standards possible?

Basel's compromise can be felt in many areas. In most areas this 'broadening' has benefited a commercial interest. One of the more striking tendencies towards leniency has been in the area of risk weightings for mortgages. There is some justification for a lower risk weighting given the fact that house loans are collateralised. Nevertheless how low risk weightings for mortgages fell and who this benefited is a concern. From 1988 the risk weightings for mortgages were only 50 per cent. This was reaffirmed in the original 2004 Framework but revisions to the 2004 Framework made in 2006 reassigned a 35% risk weighting to mortgages¹⁴. Much of the leniency does of course have to do with the results of risk modelling performed at the time that suggested mortgage loans rarely lose money. Despite this the commercial effect of the lower risk weightings has been striking. Though mortgages may always have been an attractive

¹³ Basel Committee Secretariat, May 2001, *Comment on the New Basel Capital Accord* p.1

¹⁴ Basel Committee on Banking Supervision, *International Convergence of Capital Measurement and Capital Standards – a revised framework* June 2004, revised June 2006 p.325

business bank managements in the early 2000s were particularly keen to stress they had a consumer banking strategy based on an initiation of mortgage loans and cross-selling of other products. The strategy was prevalent, so very few remarked at the fact that mortgage borrowers were able to borrow from banks at interbank rates. As several bank CFOs agreed when asked, banks were happy to use mortgages as 'loss leaders'¹⁵. One could argue that banks were fooled into this lending at low rates by faulty and short-sighted historical modelling. This was certainly a factor but blaming the modelling does not do justice to the strategy's particular dependence on the capital regulations of Basel. Low risk weightings do not mean lower interest rates. They mean that unused 'excess' capital can be reused to underwrite more, new cross-sold products. Many banks under Basel's 'advance level supervision' were even allowed to hold effectively no capital against some mortgages¹⁶ allowing even more capital to be ploughed into other products or paid out to shareholders. Late into 2007 and early in 2008 it is notable how many analysts were still extolling the virtues of Basel II and how it would allow banks to hold even less capital¹⁷ or provide more cross-sold products. Perhaps it is speculation that commercial interests combined with consumer groups in favour of home ownership really affected the Basel regulations¹⁸. Nevertheless it is clear who benefited from them.

Not only are regulations influenced by those taking part, they are subverted. One area where a whole industry developed to take advantage of complicated regulation is the area of 'credit risk transfer'. In a broad definition this refers to any security or derivative or basket thereof which facilitates the transfer of credit risk ownership away from the credit originator. These products can therefore include anything from

¹⁵ Meetings with bank managements in 2006 that first sparked my interest in Basel II

¹⁶ Danske Bank Presentation, *Capitalising on Basel II*, Goldman Sachs European Financials Conference June 2007

¹⁷ J. Warner, June 2007 *The Independent*, *Basel II Reason for Cheer among Bankers*; and S. Hunter of Astra Mortgages, cited by G. Bather, April 2008, *Mortgage Introducer, Under Inspection*

¹⁸ J. Skarin, letter from the Massachusetts Banker's Association to the Federal Reserve Board, January 2008; and the Mortgage Bankers' Association, *Basel II Comment Letter*, October 2008 provide some scattered evidence

Credit Default Swaps (CDS) or Collateralised Debt Obligations (CDOs) to Structured Investment Vehicles (SIVs). The debates as to whether or not to regulate CDSs in the U.S. are popular. Greenspan is now a scapegoat¹⁹ but lobbying from financial institutions should probably also take on sizeable blame. The Basel Committee itself recognised quite soon its lack of experience of innovations in structured financial products; back in 1998 it admitted “that there is only a limited experience in assessing the risks in some of the [off-balance sheet] activities”²⁰. Despite this it acted on the assumption that financial innovation should be given the benefit of the doubt. Despite this it developed a *complex method* of assessment of off-balance sheet risk and rule based assessments of applicable ‘credit conversion factors’ (CCF). The ultimate result was to allow banks which took advantage of the complicated rules and exemptions to structure and contract off-balance sheet exposures to hold as little capital against them as possible. One tactic, for instance, was to get off-balance sheet vehicles classified as SIVs rather than Asset Backed Commercial Paper vehicles (ABCPs) in order to benefit from significantly reduced capital requirements. The defining feature of a SIV as opposed to an ABCP is that it submits to regular supervision by a ratings agency²¹. Off-setting the supposed benefits of these ratings the banks began to allow the SIVs to have recourse to them to increase the credit ratings. In this field the hero of the day in this was the Spanish regulator. It noted that most SIVs acted much like controlled subsidiaries and thus insisted that SIVs were treated as 100% owned subsidiaries of a bank and consolidated as such without special treatment. It consciously ignored all the Basel Committee’s complicated rules on the use of varying credit conversion factors to convert the risk of off-balance sheet exposures and it applied simple, comprehensive and inflexible rules to SIVs.

¹⁹ “The new instruments of risk dispersal have enabled the largest and most sophisticated banks, in their credit-granting role, to divest themselves of much credit risk by passing it to institutions with far less leverage... These increasingly complex financial instruments have contributed to the development of a far more flexible, efficient, and hence resilient financial system than the one that existed just a quarter-century ago.” – A. Greenspan, October 2005

²⁰ Basel, *International Convergence of Capital Measurement and Capital Standards* – July 1988, updated to April 1998

²¹ D. Long, *Converging developments in ABCP conduits and SIV markets*, 2006 p.3

Meanwhile the Basel committee tended instead to go along with the manipulation of its rules to reduce capital requirements and increase 'efficiency'. It is this 'efficiency' (or *risk concentration*) which is the major problem with the 'credit risk transfer' market, rather than the products themselves; and it is a problem which common sense policing of capital adequacy might have helped avoid. In the backdrop of a relatively benign period in 2004 the Basel Committee acknowledged without urgency: "the treatment of provisions in the Framework set out here generally tend to reduce Tier 1 capital requirements relative to total capital requirements..."²² What could be said of provisions really applies to many other areas as well, such as that of off balance sheet exposures. The most direct solution to this tendency would have been to have kept the regulations simple, with fewer criteria and exemptions. On the contrary, all the rules, criteria and exemptions allowed for the substantial effective reduction of capital requirements and the concentration of risk. Somehow the Basel Committee allowed all this rulemaking to go on despite the fact that it admitted it had only a "limited experience in assessing the risks".

Finally, in the context of history, rulemaking and opportunism, the odd issue of internal modelling requires consideration. It is conceptually flawed. It is one thing to deliver and maintain detailed rules on capital adequacy and risk weighting. It is a separate issue to devolve the risk rating requirements to the intended recipients of regulation, even if the recipient must submit to tighter supervision as a result. Part of the reason for outsourcing this part of the role of regulation may be to lower the cost of implementation to the regulatory body. Another is the already mentioned incentive for the regulator to draft something 'acceptable'. Sadly outsourcing regulation to the recipient is logically irresponsible. In theory a bank might model the risk that investments will go sour whether or not there is a regulator. In the *absence* of regulation their balance sheet would be positioned according to this and in any other way that it wants. One of the functions of regulation ought to be to stop a bank simply positioning its balance sheet 'in the way that it wants': the principle of having

²² Basel Committee on Banking Supervision, *International Convergence of Capital Measurement and Capital Standards* – a revised framework June 2004

capital ratios is to keep banks *within* limits. “One size fits all”, at some level or another is the *sine qua non* of regulation. Since the regulatory body does not keep an independent risk modelled profile of the assets of a bank which it is supervising, the ‘supervision’ is largely meaningless. As is now evident the movement towards internal modelling created a perverse incentive for banks to create complex risk models to justify investments²³ and lower risk weightings. As already mentioned the advanced level internal ratings approach to weightings allowed for almost no capital to be held against mortgages; the same approach also allowed for a zero risk weighting to be applied to margin lending businesses despite some regulator’s objections²⁴. The best symptom of this flaw was how eager banks were to join and take advantage of the self-assessment system. The implementation of Basel II was a key factor in the SEC’s decision to change its net capital rule (15c3-1). A key argument of the broker dealers that wanted to participate in this modification of the rule was that internal risk-weighting assessment was needed in order to maintain the U.S.’s competitive advantage as a centre of broker-dealer activity. The key passage from an SEC release is this:

“These amendments are intended to reduce regulatory cost for broker-dealers by allowing very highly capitalized firms that have developed robust internal risk management practices to use those risk management practices, such as mathematical risk measurement models, for regulatory purposes. A broker-dealer’s deductions for market and credit risk probably will be lower under the alternative method of computing net capital than under the standard net capital rule”²⁵.

The context goes close to mistaking a high absolute capitalisation with an adequate capitalisation. More importantly regulation which has participants actively jumping to join for the sake of profitability begs its own demise. Absent is any sense of whether or not the regulators really understood any of the ‘mathematical risk measurement models’, or why the change made sense *except* for commercial interests.

²³ F. Salmon, Wired Magazine, *Recipe for Disaster: The Formula that Killed Wall Street*, February 2009

²⁴ N. Sawyer, Risk Australia, *Ahead Down Under*, September 2007

²⁵ SEC Commission *Alternative, June 2004, Net Capital Requirements for Broker Dealers...Final Rules*

3. Recovering a concept of capital and its dependants

The criticism offered above points toward an image for the Concept of Capital and its application. We should return to something simple and well understood. If it is easy to understand and apply, it is less likely to be corrupted. Complex modifications should be kept to a minimum; applications to complex problems should be easily achieved. Simplicity as well as well understood 'essential characteristics' ought to guard against political and commercial interference or modifications. Lacking pages of provisions and details saves one from opportunistic applications. Policy can be applied to the actual ratio of capital required, rather than the constituents; this is more transparent. The constituents of capital ought also to be unambiguously identifiable from accounts to avoid further opportunism, or worse, uncertainty, to arise. My proposal for a concept of bank capital is "liquid assets upon which there is no external claim": "owner's cash" or "cash-equity". This is because I think there are three characteristics of capital which a robust concept of bank capital ought to cater for, not only the one as mentioned by Basel. It should, as mentioned often enough in Basel, have the characteristic of being able to *absorb losses* on a going concern basis. It should also, though, have the characteristic of being able to *absorb redemptions*, which often follow on the back of losses. Further, most critically, it should have the characteristic of being available to *fund new business* without recourse to external parties, without which its status as a going concern is open to question. An immediate merit of this approach is that cash on hand is simple to account for – though 'cash-equity' may be a little trickier. Actually for reasons given below the definition should be extended to 'cash-and-treasury-bill- equity'.

The 'new' essential characteristics may be questionable. Noticeably I have adopted characteristics of capital which suggest that bank capital should be 'free' and 'unemployed'. No one disagrees that the first function of capital is to absorb losses.

An equity buffer does just this. However, unless the equity is invested in essentially 'uncommitted' or easily disengaged liquid assets the capital will offer no flexibility to deal with the consequences of losses - it will merely sustain them. The immediate consequence of large unforeseen losses is to *increase leverage ratios* despite the fact that the losses are theoretically 'absorbed'; concomitantly large losses encourage depositors and other creditors to withdraw liquidity. Capital cannot protect creditors on a going concern basis if it simply absorbs these losses. Capital ought to allow flexibility to deal with losses. The essential flexibility that cash on hand allows is twofold: it allows leverage ratios to be reduced manageably in the event of losses by allowing debt to be paid down (whether or not creditors wish to redeem); and it allows the cash-equity buffer to be rebuilt more quickly through its application to new more profitable business. If debt cannot be paid down leverage ratios can grow to unmanageable levels. If new business cannot be sought out, banks can be slowly undermined by the unprofitable unwinding of legacy business; whereas if they have cash for new business even the problems of old business are not insurmountable. A good example of this is Berkshire Hathaway, many of whose businesses are going through a terrible time. Nevertheless, Berkshire Hathaway remains very well positioned having built up large cash balances in the good years, with which it will fund new businesses, inexpensively, in the bad years. Ultimately what is being described leads back to the basic, general definition of capital as "financial resources available for use"²⁶. The specific definition is *cash-equity* capital.

Interestingly, as previously quoted, in Basel's older frameworks there is a recognition that capital must be "freely available" to absorb unexpected losses. What is unnoted by the committee however is how exactly equity-capital is "freely available" when it is often committed to funding long term loans or even fixed assets. In real terms the only freely available capital is cash-equity, which is *liquid funding*. A stretched definition can allow the inclusion of assets acceptable as collateral for repurchase agreements by a central bank, since these are considered to be as good as cash. Hence the idea of cash-and-treasury-bill-equity. The focus on asset liquidity was somehow

²⁶ Investopedia.com

lost over the last century as older assumptions of banking activities (deposits and remittances) gave way to newer ones (buying assets for returns). The proposed 'new' concept of capital merely moves back part way towards the use of reserve (cash-capital) requirements, which declined in importance throughout most of the last century. The move backwards towards the nineteenth century concern is necessary. The move away from cash-capital requirements towards subordinate-liability-capital requirements was only relevant when the combination of treasury repurchase agreement and the discount window could give banks access to reserve liquidity; and it was further justified by a view that bank runs were therefore a thing of the past. The discount window stopped working in the last 50 years because its use became seen as a sign of imminent failure and tended to *precipitate* bank runs. The repo market has failed more recently because some banks have failed to hold sufficient repurchaseable materials (i.e. treasury bills). This itself was driven by a lack of focus on liquidity. It has therefore been required that the Federal Reserve allow other asset classes (i.e. some mortgages) to be repurchaseable under agreement to deal with the problem of illiquidity as well as losses on bank balance sheets. It is notable that some European Central banks (Bank of England and the Swiss National Bank) prior to this crisis had virtually eliminated reserve requirements. Meanwhile, though reserve requirements are technically still an instrument of Federal Reserve monetary policy, its use has been in structural decline²⁷. Essentially it is not used as an instrument of policy. It is partly with this implicit confidence in the superfluity of reserves that the Basel Frameworks have consistently neglected the asset side of capital definition.

In terms of the capital requirement ratio, whilst risk weighting need not be abandoned, 'gross' ratios, without risk weighting should at least be used as supplementary measures as these are less open to abuse and give a more consistent reflection of gross risk exposure. The actual capital ratio used, whether it is 4% or 25%-50% (as it was in the nineteenth century) is adaptable. There is no need to go back to the punitive ratios of the nineteenth century. In fact a capital ratio can be used as an instrument of policy and adapted to circumstance. Much like reserve

²⁷ J. Feinman, *Reserve Requirements: History, Current Practice, and Potential Reform* (1993)

requirements in many emerging markets the new 'capital' ratio can be used as a counter-cyclical policy tool. It can be increased as lending increases and decreased as defaults rise. This may seem odd but once one accepts that the asset side of capital is important one may begin to see how the use of reserve ratios, both in the past and in emerging markets, might be relevant for capital ratios. One recalls the fable of J.P. Morgan when he dealt with a run on brokerage houses in 1907:

“...Mr. Morgan simply sent word to the frightened bankers of New York that they must provide the money the Stock Exchange needed.

“But we haven't got any. We're loaned up to the hilt”, the banks protested.

“You've got your reserves” snapped J.P.

“But we're already below the legal limit”, they howled.

“Use them! That's what reserves are for!” And the banks obeyed and invaded reserves...it saved the stock market.²⁸

Equally it can be argued, this is what capital is for: to *meet* losses and redemptions. If legal limits mean that capital is not free to be lost and absorb losses, what use is capital? In a crisis inflexible legal limits are part of the problem. The limits should be considered as an active instrument of monetary policy. Like reserve requirements, capital requirements can be lowered when cash and funding is in short supply to allow banks an opportunity to build back earnings. Whatever the case, a flexible but simple capital ratio, adaptable to the lending environment, is infinitely preferable to its substitute: minute variations and distinctions in risk weightings and credit conversion factors, which allow for great opportunities for abuse and obfuscation. Policy should be applied to the level of the capital ratio, not to deciding the constituents of capital²⁹. The cash-equity capital ratio incorporates part of the old core capital ratio of the Basel system and part of the old reserve requirements ratio of the old Federal Reserve System. It may seem novel but it is much less a departure from current practice than it is a revision of old and existing ones. Much odder is the

²⁸ E. Lefevre, *Reminiscences of a Stock Operator*, (Wiley, 1994) P.115

²⁹ In the same way that, at least before this crisis, central banks applied policy even handedly via the target discount rate, and not arbitrarily to whatever entities were chosen for lending

fact that equity-capital requirements were never explicitly or *openly* considered as a monetary policy tool³⁰.

It is worth saying a little more about why a notion of capital and a capital ratio should place more emphasis on the liquidity of assets and cash in particular, in light of recent developments. The Basel Frameworks put an undue emphasis on equity and long term subordinate liabilities which should protect creditors from losses. It put some stress on equity as: “the key element of capital on which the main emphasis should be placed ... This key element of capital is the only element common to all countries’ banking systems; it is wholly visible in the published accounts and is the basis on which most market judgements of capital adequacy are made; and it has a crucial bearing on profit margins and a bank’s ability to compete.”³¹ Firstly, if one puts the emphasis on cash assets one can see that equity is clearly *not* the only element common to all banking systems and that cash is even easier to identify from the balance sheet. In fact one of the problems with equity-capital, let alone Basel-defined-capital, is that it is actually very hard to define. The Basel Committee asserts that ‘[equity] has a crucial bearing on profit margins’. Actually the precise *reverse* is true: profit margins have a crucial bearing on bank *retained equity* – and this is often the greatest portion of equity. Much like insurance businesses, banking businesses require *assumptions* to estimate profit margins of long-term business. The main assumption is the level of provisioning to take, though many other things are also involved, such as the level of taxes and the value of long-term fees contracted. The difference between tangible equity and other forms has been popularised in recent articles on the Royal Bank of Scotland, Citigroup and Wells Fargo³²; the issue of whether or not to include goodwill, or tax assets or mortgage servicing rights in bank equity-capital is much discussed. Ultimately all these issues arise because the content of equity-capital is dependent on assumptions

³⁰ Though they are in some countries (such as Turkey); see below

³¹ Basel, *International Convergence of Capital Measurement and Capital Standards* – July 1988, updated to April 1998

³² J. Weil, 2008-11-24, *Citigroup’s ‘Capital’ Was All Casing, No Meat*; M. Johnston, April 28, 2008, *Huge RBS markdown shows crunch may be long way from over*; D. Reilly, Feb 5 2009, *Wells Fargo’s Equity Pumped Up by Squishy Asset*

made about the content of future earnings. *Retained earnings from interim and annual results are only estimations of the future profit of longer-term projects distributed pro-rata over time based on large inherent assumptions.* Whenever these assumptions are questioned our faith in any definition of capital predicated on equity-liability is undermined. It should also be noted that problems in equity calculation often stem from a problematic asset qualification (goodwill or tax asset). The emphasis on *cash* or repurchaseable assets tries to ensure an emphasis, firstly, on assets which are not questionable and secondly on assets that are not bound by on-going projects. The fact that cash is available to fund new business is a necessary corollary of the fact that it is not committed to old projects which are uncertain. It is possible that the cash does in fact have other commitments but the *principle* that capital should only be counted from projects which are fulfilled remains.

Having an eye on a simpler more robust concept of capital and an eye on gross risk ratios has helped many banks and central banks, as does a better conceptual grasp of reality in general. The Spanish example has already been mentioned. It is important to emphasize that looking at the gross exposures to risk that banks had enabled the regulator here to head off a massive increase in bank off-balance sheet exposures. It is understood that a SIV, no matter how well rated its assets, was essentially a subsidiary of the parent bank and should be regulated as such. Other central banks, often in emerging markets with histories of currency crises did an equally commendable job of regulation. In India SIV type vehicles were similarly prohibited. In India, much like in China and other emerging markets reserve (cash-capital) requirement ratios were used as counter-cyclical monetary policy tools. It is interesting that earlier in this credit cycle analysts pointed out that the dependence on reserve requirements as a policy tool represented a weakness in these financial systems. These markets used reserve ratios because a sufficiently liquid repurchase agreement market had not been developed. It seems clear now that the repo market can only substitute for the reserve requirement ratio if sufficient government securities are kept instead of cash. Therefore the more effective use of the repo market is probably in conjunction with a capital ratio as outlined above. Other

measures, which seem sensible now but seemed crude and inefficient at the time, include the high liability-capital ratios imposed on some countries' banks. Hong Kong for instance has maintained for some years a capital adequacy requirement of 10 percent, 2 percentage points above the Basel minimum. The requirement allows the Hong Kong Monetary Authority to more tightly control the supply of money and lower the risk to its currency peg. A similar eye on its currency influences the Turkish 'BSRA' in mandating that a capital adequacy ratio above 12 per cent must be kept for any bank that wants to open a new branch. The measure meant many banks had to raise more equity relatively early on in the credit cycle to sustain growth. This is the closest I have seen to a liability-capital requirement ratio that is used as a counter-cyclical policy tool since the 12 per cent minimum is not applied to banks which are not growing. This also happens to be a country which, like Hong Kong, is sensitive to the link between capital requirements and monetary policy. The policy displays a good intuitive sense of the use of capital in recognising the fact that incrementally more capital is required for stability when a bank is growing its long term loan book in an upturn than when a bank is shrinking its long term loan book in a downturn; and in recognising that any capital requirements (asset or liability) are, *de facto*, a monetary policy tool. Elsewhere Polish banks report under IFRS but it seems that the regulator still keeps an eye on them based on cruder ratios. The Polish regulators use a risk weighting of 75 per cent for mortgages³³, for example, rather than the 35 per cent for Basel. None of these little facts alone means that any of these mentioned markets are immunised from the global credit problems. On the contrary the Polish banking sector has a huge problem with foreign exchange liabilities, not least in the mortgage sector. However what is evident is that in many cases Basel and the international reporting requirements have been pushing these countries towards 'more efficient', 'more sophisticated', but less appropriate standards. One South African bank executive recently commented: "I wish I could sit here and say that we have built up large counter cyclical provisions for general risk [as we always used to do] however, because of IFRS this just simply isn't the case"³⁴.

³³ Investor Relations, Millenium Bank, 29 September 2008

4. A framework

This essay is much more concerned with the concept of capital than other surrounding issues. Nevertheless saying something about the kind of regime this conceptualisation may be part of is necessary. Though prudence has been stressed as a key goal of any regulatory framework it is admittedly not the only one. The goals of a regulatory framework should probably be fourfold: stability (or prudence), growth, transparency (or maintenance of fairness to participants) and (concomitantly) standardisation. The first two goals often contend with each other. In the case of a capital adequacy requirement such as 20 per cent, for instance, this is clearly 'prudent' or 'conservative' but it will also stymie growth. I should emphasize that though in general I do think that the current regime has been imprudent in places I am not actually advocating a particular bias in policy; as far as these considerations on the concept of capital go, I am agnostic to the emphasis between growth or stability. If a regulator wants to put growth above stability there will be nothing stopping it in the proposed regime from putting in place a capital adequacy ratio of 1 per cent. The key point I want to have made is not necessarily that the policy choices have been imprudent so much as that the way that the policy choices have been implemented has been ill-thought through. It is much better, for instance, that there is a fixed definition of capital, such as 'cash-capital' which everyone understands and that the required ratio changes, than that, as in the current regime, the required ratio is well known (8 per cent) but that the constituents of capital are constantly changing in ways which nobody understands or can see. One of the best examples of this is cited above where the Basel rules have allowed cross-holdings of capital to be counted as capital, despite objections from some regulators. Allowing this and other exceptions means that one is very uncertain what an 8 per cent capital ratio actually means or what dangers may lurk within. This

³⁴ CFO, FirstRand Bank, 29 November 2008; concomitantly H. Hall, Citigroup, *South African Banks: Are ROEs sustainable?* 2008, provides the case for the fact that counter cyclical provisioning took place historically

is opaque and is unfair to participants in the system in much the same way that the use of EBITDA in debt covenants is. Some indebted companies take advantage of the fact that EBITDA is not a GAAP measure of income and therefore has no legal status when agreeing to abide by a debt/EBITDA loan covenant. If and when a specified covenant ratio is breached the company can redefine EBITDA and so avoid the technical default³⁵. It is preferable that all the participants know what the constituents of capital are definitively and rather that the required ratio changes than that the constituents are always changing though the required ratio is always the same. This way the ratio offers more information. Without a recognisable standard, one is constantly guessing what particular risk a bank is exposed to, or what different regulations a country has that may influence a capital ratio. Does a Basel Accord provide much help if an 8 per cent capital ratio in one country is not the same as in another? My view is at odds with the current approach which espouses the view that "no one size fits all" but the current free for all that is the Basel Capital Framework makes the 'standard' technically meaningless.

5. A negative application

Having put together some thoughts on the concept of capital and its dependants some comment on where this might shed light on the current problems is warranted. The Basel Committee has believed in statistical modelling and the efficiency of disintermediation. In general Basel regulations on capital allowed and pushed banks to be more 'efficient' with the use of capital. The regulations also simultaneously encouraged the use of the 'credit risk transfer' instruments. Some major exemptions from capital requirements (such as in local cases of goodwill usage) further compromised the system. Self-administration of risk weightings, albeit under theoretical supervision, undermined the notion of supervision. Perceived stability in the financial markets eroded the use of cash-capital requirements and allowed us to

³⁵ E. Comiskey, C. Mulford, *The Financial Numbers Game* (2002) p.322+

forget about how some of the necessary tools of financial crisis management actually work. The overall effect of regulations therefore has been to allow large concentrations of long-term assets to be borne by minimal amounts of equity-liability-capital in particular places and for the system to be saturated by financial assets in general. The pressing question we need to ask right now is not what ought we to have done but what can we now do to lower the gross asset to equity ratio of the overall economy to a sustainable level over time. Many things have been mentioned – bad banks, nationalisation, break ups and sales, inflation. Some approaches have been taken that are pointedly misguided: the Korean central bank recently raised capital requirements at a point in time, if anything, when it should be lowering them (if the arguments above are accepted). The U.S. has moved in the right direction in relaxing capital adequacy rules. It has allowed more use of deferred tax assets as tier 1 capital. On the other hand I think it should not have allowed more goodwill to be used as capital, but rather, more transparently, should have revised the overall capital adequacy ratio downwards. A radical version of this counter-cyclical adequacy ratio policy is possible given the considerations for the concept of bank capital adequacy above. I would recommend lowering capital adequacy ratios, perhaps to 2% perhaps to 0%. If necessary, as an emergency measure, I would advocate an effective *negative capital adequacy ratio* as part of a solution for the current problem of insolvent banks. The solution draws inspiration from one of the Mexican innovations of the 1990s. Instead of directly recapitalising the banks after the Tortilla crisis, one of the tools the central bank and government created and used was the “provision for statutory loan loss reserve”. During the early 1990s crisis banks that had insufficient reserves or capital to hedge their credit risks were allowed a “deferred, gradual application of reserves”³⁶. As I understand it this is an accounting tool that effectively allows the banks to temporarily ignore the affect of write downs, dependant on the creation of an off-balance sheet contingent liability to be paid back more slowly than the write-offs actually occur. I would modify these deferred reserves so that they are an *on*-balance sheet liability. The benefit of this accounting tool is that (as long as cash liquidity can be maintained through central bank loan facilities, which can be priced either

³⁶ G.A. Del Angel et al., *Bank Accounting Standards in Mexico* (2008)

punitively or leniently) a bank can in theory pay back current losses from future earnings. Direct government debt is not involved. Only central bank loans are needed. This approach would effectively allow a bank to hold negative liability-capital. This is not as strange as it seems. 'Negative capital' is what bailouts funded from future taxes are. Most western governments are in a state of permanent negative equity and are dependent on future tax revenues, which is the nation's future equity, for solvency. As long as the overall liquidity of a bank can be maintained (which admittedly may be tricky), there is no need for negative capital to be shifted from a bank balance sheet to the government balance sheet and for taxpayers rather than shareholders to pay. The bank remains committed to paying back its losses. Allowed to use negative capital, a bank can still get loans from the central bank at the discount window rate which can be lent out profitably; it can continue to be a conduit for the lending of depositors' money even if it has run out of equity-liability-capital. New investors are even partially compensated for lower returns by lower capital requirements. Of course many questions concerning the practice of the scheme remain. The main benefits of the solution are clear. A commonplace reality of public sector accounting is simply being allowed to apply to banks. Banks do not have to be nationalised and still have both an incentive and *ability* to create profits. They are encouraged to make loans to rebuild equity rather than hold excess reserves. The problem is also being made much more transparent. Perhaps it is not this simple but the first part of any solution ought to be to be able to *recognise* the problem. Currently, arguably, we know that there is a problem but we are failing to recognise it.

There are many issues with this idea, not least that it is only a small part of the solution. Many problems I probably have not thought of. Those that I have I cannot pretend to provide a definitive answer for. The major issue is the fact that once the required capital ratio falls below the zero bound, the central bank is underwriting any reported shortfall in capital in the event of an unwinding (or run) – though not on the assumption that the bank can be maintained as a going concern. This shortfall may end up having to be underwritten by the Treasury. However the use of negative

capital ratios has benefits too. For one thing, no capital is injected unless an insolvent bank needs to be unwound. For another, it may simply be recognising the facts of which everyone is aware: our banks are in grave trouble and need help. Currently many analysts and the public think that the government will bail out the banks anyway. Given the deposit insurance schemes, depositors are reasonably phlegmatic; there is a limit to the places one can store value if one doesn't put savings in a bank: therefore a run on a bank just because it is officially recognised to have negative capital seems unlikely. The insurance schemes being put in place in the U.S. and the U.K. mean that this underwriting is happening anyway and mostly behind closed doors. Using the level of the ratio will also allow the government to cap its potential losses at a level it has a say in determining (albeit potentially a very high one). Banks falling below the lowered legal limit will implicitly not get further government support. As when interest rates are targeted the central bank can move the target capital ratio gradually back upwards with time. The temporary measure gives banks some time to reorganise but may curb the creation of a moral hazard if banks know that certain target capital ratios must be reached in a certain amount of time. The measure is distinctly an emergency one: it should not be in place in a 'normal' operating environment. The lenient ratios also mean that rights issues need not be called in the short term, and rates of return are higher. Rights issues only draw equity away from other parts of the system in the short term and can actually contribute to the instability of the system. Equity buffers everywhere, in households, in governments and companies as much as in banks need, time to be built back up; without that time the system will simply move from one convulsion to another. Borrowing from the future, which the use of lower capital ratios is method of allowing, is the only way to access this time. If the major banks in the world cannot recover having been given the extraordinary leniency of very low or negative required capital ratios then the situation is very grave anyway. If they can survive, on this basis, and start writing new profitable business then some optimism may be restored since a process of improvement has started. Even if negative capital ratios are considered a step too far is any more danger to the system created if required capital ratios are lowered temporarily? What would Pierpont Morgan think?

A Conclusion

Whilst the shorter term results that flow from this consideration of bank capital are small and unclear, the longer term arguments should be more apparent. Capital is a poorly understood concept. Even if one does not accept the definition of the concept outlined here, or its consequences, one can acknowledge the problems and compromises that the concept has suffered. A flawed conception has compromised regulation. It has allowed the regulations to become too cumbersome and abstruse for effective use; and it has allowed regulation to be influenced by policy and commercial interests. It has actively encouraged the concentration of risk as a sign of 'efficiency'. Its disception has even played a part in weakening the tools that work to alleviate financial crises when they arise. Though 'capital ratios' have a history in reserve requirements and monetary policy that link has been lost without pause for thought. Better (counter cyclical) capital ratios might even provide an even handed way of dealing with the topical problem of executive bonuses. Longer term the concept of capital, the concept of a capital ratio and the use of capital requirements all need further consideration. An all too brief attempt to sketch a concept and justify it has been made here. There is a case for liquidity requirements to be a part of capital adequacy requirements, just as there is a case for adequacy ratios to be used as policy instruments. Consideration of both is incomplete. The most important thing is that we attentively reconsider the conceptualisation of capital and its implications. One way or another, one of the more obvious results of the recent crisis is that grosser, cruder, less conceptually compromised ratios can play a greater role. Even the Basel Committee has had to admit this fact: "Governor Nout Wellink, the Chairman of the Basel Committee on Banking Supervision, has recently said that the committee is currently considering measures to strengthen Basel II by supplementing it 'with simple, transparent gross measures of risk.'"³⁷ Simpler, more transparent, better understood and more consistent definitions of capital and capital ratios must be part of the regulatory system in the future.

³⁷ P.M. Hildebrand, V-Chairman of Board of the Swiss National Bank, Speech at LSE, 15 December 2008

Appendix: Questions Offered For The Reader's Consideration

1. Why has the conceptualisation of bank capital in the last 20 years focused on equity and the liability side of the balance sheet, not the asset side?
2. Does cash have as much claim to be counted as capital as equity does?
3. Has an historical link between the concept of reserves and the concept of capital been severed?
4. Is equity a reliable measure of capital?
5. Under what circumstances is equity 'freely available' to absorb losses?
6. What is retained equity?
7. Why have liability-capital requirement ratios not been considered as active monetary policy tools when reserve (cash-capital) requirement ratios have been?
8. Why have changes to the constituents of capital been used to affect policy rather than changes to the adequacy ratios?
9. Could the use of cash and equity capital ratios, counter-cyclically, as a monetary policy tool help to reign in the excesses of our current financial system?
10. In a disintermediated capital market, do the vehicles of the disintermediation need their own capital adequacy requirements?
11. What level of bank capital requirement ratio is appropriate? For what places and what times?
12. Should the average duration of assets impact the appropriate capital ratio?
13. How much do we benefit from transferring a negative capital position from a private bank to the state?
14. Can the liquidity requirements of a bank with a weak or negative liability-capital position be maintained by central bank lending facilities? Can the requirements be maintained by national debt lending facilities?
15. Should we all sell our bank deposits and buy gold?

i The author is head of research at Somerset Capital Management LLP, a fund management partnership specialising in Emerging Market equity investments. The document has not been written for Somerset Capital Management and does not necessarily reflect its views. It has not formed the basis for any investment decision made by Somerset Capital Management on behalf of its clients.