

PROCYCLICALITY AND FINANCIAL REGULATION

Charles Goodhart (*)

(*) Charles Goodhart is Professor Emeritus of Banking and Finance and Director of the Research Programme in Financial Regulation of the Financial Markets Group at the London School of Economics.
This article is the exclusive responsibility of the author and does not necessarily reflect the opinion of the Banco de España.

1 Introduction

Much analytical and empirical work was done to warn that the combined introduction of Basel II and the new IFRS 'mark-to-market' accounting system would have a significant, and potentially dangerous, impact on the procyclical variation of banks' required capital adequacy ratios. I have been involved in several of these exercises [Danielsson, et al, (2001); Goodhart, Hofmann and Segovino (2004); Goodhart and Segoviano (2004); Segoviano, Goodhart and Hofmann (2006); Goodhart and Taylor (2007)].

In a recent paper by Repullo and Suárez (2009), they conclude that,

"the new requirements might imply a substantial increase in the procyclicality induced by bank capital regulation. Specifically, despite banks taking precautions and holding larger buffers during expansions in order to have a reserve of capital for the time when a recession comes (and capital requirements rise), the arrival of recessions is normally associated with a sizeable credit crunch, as capital constrained banks are induced to ration credit to some of their dependent borrowers."

Although more work does need to be done to quantify the extent of such procyclicality, the existence of such an effect and the basic reasons why it has occurred are now widely accepted, and deplored. The Appendix by Brandon Davies gives an example of such an assessment.

Basel II and IFRS were not introduced out of some perverse wish to destabilise the world's financial system, though they have, alas, played a supporting role in that outcome. Indeed Basel II incorporates best available current thinking on micro-prudential behaviour for individual banks, and 'mark-to-market' may have unfortunate systemic side effects, but, like democracy, only seems to give such bad results, until you have tried all the other alternatives, which are generally (much) worse. It is the theme of our Geneva Report by Brunnermeier, et al., (January 2009) that Basel II and IFRS do not need to be rejected, but rather supplemented by effective counter-cyclical instruments, which need to be sufficiently powerful to overcome and even to reverse the procyclical tendencies of Basel II and IFRS.

The Spanish dynamic pre-provisioning scheme has been the first such counter-cyclical instrument. It is one of a set of potential counter-cyclical instruments, and one of the purposes of this paper is to outline the potential extent of this set. This Spanish scheme has run into difficulties with the accounting profession, because the future downturn, and accompanying defaults and non-performing-loans (NPLs), are hypothetical and expectational, rather than tangible and individually identifiable.

While some of these issues are specific to the details of the Spanish scheme, and may be capable of remedy, this is a particular example of a more general human failing, which is a myopic tendency to extrapolate recent developments, especially when these have been good, into the longer term future.

By most standards the fifteen years between 1992 and 2007 were a 'Golden Age'. Growth was steady, and by historical standards quite rapid; inflation was reduced and then kept to target. Unemployment and interest rates fell to low levels and were held there. It was more than a 'great moderation'; it was a triumph. As the engineers of this promised land, Central

Bankers were feted and lauded. Politicians claimed to have abolished the cycle of boom and bust. The sub-prime mortgage market was viewed as a splendid innovation, extending the benefits of home-ownership to a swathe of formerly disadvantaged citizens (and immigrants). And so it was, so long as nominal housing prices continued to rise on average (across the country-wide pool of mortgages).

The prior two examples of great systemic financial crashes in the 20th century, to wit USA in the 1920s and Japan in the 1980s, also occurred after Golden Ages with rapid (and quite steady) growth and low inflation. When conditions have become so favourable, risk will appear to be low, and asset price increases almost assured. Against this background only the faint-hearted refrain from debt-enhanced expansion.

2 *Rowing Against the Tide*

So, regulatory action to counteract booms will always be unpopular. In a boom, everything is going well. It is natural, and self-serving, for all concerned, financiers, investors, politicians and borrowers to assert, and often to believe, that the good times are due to their own personal skills and acumen. There will be confident assertions that this is no temporary bubble, but due to a more fundamental improvement in productivity, or risk management, or technical innovation, or whatever. Almost all concerned will want to believe that.

As McChesney Martin stated, it is the Central Bank's role 'to take away the punch bowl just when the party gets going'. But that is a deeply unpopular role. Many, if not most, of Alan Greenspan's arguments for not attempting to mitigate asset price bubbles represented an appreciation of the unpopularity of such an exercise.

If counter-cyclical measures are going to be unpopular when imposed in a boom, they will have to be rule-based. Only a rule, perhaps introduced in the aftermath of a financial crisis, will be a sufficient commitment device to ensure that such an unpopular step is taken when required. In a sense regulators/supervisors already had full discretionary powers to introduce as strong counter-cyclical powers as might possibly be needed, under Pillar 2 of Basel II. But they were not used to this end, and probably never would be. It is a standard, and effective, example of time inconsistency.

There are several reasons why adjustment of official short term interest rates should not be the chief, or even perhaps one of the, instrument(s) for mitigating asset price bubbles and busts. Despite the attention currently being given to the restoration of financial stability, the achievement of price stability (inflation targets) remains the primary objective of Central Banks. These Central Banks have successfully used their control over interest rates to achieve their inflation targets. The Tinbergen principle of assigning one single instrument to each separate objective remains. It would hardly be possible to envisage Central Banks using some alternative instrument,¹ other than short-term interest rates, for the control of inflation. Hence if interest rates were to be used 'to lean into the wind' against asset price cycles, it would have to involve a discretionary trade-off between the two objectives (inflation and asset-price stability). As noted above, such discretionary adjustments will not in practice be employed for the stabilisation of asset prices, as Greenspan foresaw. Instead, we need separate counter-cyclical instruments. We turn to these now.

3 *Measures and Instruments*

There are a number of measures that can be applied to the individual bank, or financial institution to assess its contribution to systemic cycles. These include the leverage ratio, and the

1. Remembering that, until the zero lower-bound for interest rates is reached, monetary aggregate quantities are the dual of interest rates. An interest rate implies a monetary quantity, and vice versa.

growth rate of certain balance sheet items, e.g. total assets, total private sector deposits, bank lending to the private sector, etc. One concern here is that high leverage, or the fast growth of an individual bank, might be of somewhat less systematic concern if the system as a whole is less extended.

So, one might want to interact individual bank measures of expansion with an aggregate (national) measure relating perhaps to average leverage ratios, overall growth rates of bank lending, or measures external to the financial system, such as growth rates of certain sets of asset prices, or GDP (see Repullo, Saurina and Trucharte, 2009).² Thus if one was using leverage ratios as one's national measure, the constraint that would apply to each individual institution's leverage ratio would be a function of the average nation-wide leverage ratio.³ For example assume that the penalty to be applied to the leverage ratio was x for each bank, then x itself could be a function of the average nation-wide level; and the same procedure could be applied to a measure of bank credit expansion.

If the sanction against excessive expansion was severe and/or long-lived, the regulated would have a strong incentive to shift its expansion outside the ambit of the control, and there would be some competitive advantage to the unregulated to take up such business. Disintermediation would occur, see the Appendix to the Geneva Report. Regulators and supervisors have to be aware and alert to try to limit this inevitable process.

When the authorities have chosen their preferred measure(s) of the extent to which a financial intermediary is contributing to systemic (over or under) expansion, the next stage is to translate that into a macro-prudential instrument. This has been done, for example in Spain, by applying bank credit expansion to dynamic provisioning, and in the USA, via the 1991 Federal Deposit Insurance Corporation Improvement Act, and now in Switzerland, by applying targets, sanctions for shortfalls, and minima to leverage ratios. In our Geneva Report we propose interacting these measure(s) with the pre-existing Basel II Tier 1 ratio.

A wide range of combinations is possible. Thus one could relate provisioning to leverage ratios, or apply targets, sanctions for shortfalls and minima in capital ratios to bank credit expansion. Which combination of measure and instrument is best could be another subject for research, and the ultimate judgement would involve a number of considerations, e.g. efficacy, ease of avoidance, simplicity, consistency with accountancy and tax regimes, etc.

A further issue relates to liquidity. The ability of a financial system to ride out a cyclical down-turn, or bust, in asset prices depends not only on how far it has extended its asset portfolio, but also on the structure of its liabilities. If there is no maturity mismatch, it can get through such a bust relatively unscathed. So, as we argue in Chapter 5 of the Geneva Report, there needs to be both measures of maturity mismatch, and an instrument to induce financial intermediaries to control the extent of such a mismatch. In our Geneva Report we propose, once again, interacting it with the (Basel II) capital requirement, though this has provoked the response whether we may be putting too much weight on the use of time and state-varying capital requirements. This may well be so, but what are the alternatives?

² I am less keen on the use of measures of GDP or goods inflation because history has shown that the worst financial crises erupt after periods of stability, with steady and moderate growth and not much inflation, e.g. USA, 1929; Japan 1990; USA and Europe 2007. This is the Minsky hypothesis that stability in the economy breeds instability in the financial system. ³ High leverage and fast credit expansion tend to be positively correlated. Which macro-prudential measure, or set of measures, has been most closely associated with asset price cycles should be a continuing subject for empirical research.

4 To Which Institutions should such Instruments be Applied?

An individually systemic institution, or market, is one which cannot be shut down,⁴ closed or liquidated without unacceptable effects on the functioning of the rest of the system (externalities). Whether an institution is systemic in this sense will, however, depend on circumstances. It is easier to liquidate a bank which has been brought to its knees by fraud in good times (e.g. Barings 1995), than one which has problems with its loan book in bad times (e.g. Northern Rock 2007). Even so, regulators and supervisors need to consider, in advance, the criteria which should determine whether an institution was systemic, and even to make a provisional listing of such institutions.⁵

Such individually systemic institutions need to have both macro-prudential controls, e.g. on leverage and rates of expansion, and micro-prudential controls on their individual riskiness, e.g. limits on concentration and Basel II capital adequacy requirements. Some commentators have gone further and have argued that regulatory requirements should be more closely calibrated to the institutions' relative systemic foot-print, so that the (largest) most systemic institution gets the toughest regulation, with gradual easing as the institutions become (smaller) less systemic.

I doubt whether it is, as yet, practicable or feasible to do this. While there are ways to measure the systemic impact of any particular institution's failure on the rest of the financial system, e.g. Segoviano and Goodhart (2009), they are novel, untried in practice, and time and state varying. We regard it as premature to use these to set relative capital adequacy requirements (CARs), though we do think that all regulators/supervisors should use and monitor current developments via such measurement techniques.

So we would, for the time being, just have a divide between those institutions which are individually systemic, and those that are not. Those that are should be subject both to macro-prudential and to micro-prudential regulations. But what about those that are below this line, i.e. not individually systemic. In the Geneva Report we have divided these latter into three categories, being:

- 1 not individually systemic, but 'systemic as part of a herd';
- 2 large, but not levered nor mis-matched;
- 3 tinies

Let us take these in reverse order, tinies first. The tiny institutions are clearly not systemic, and do not need any macro-prudential control. But depositors and clients need as much, or even more, customer protection as with larger (and more experienced) institutions. The emphasis in this case needs to be on customer protection and prevention of fraud. Sufficient micro-prudential control needs to be applied for this purpose.

4. This does not mean that management, shareholders or other junior creditors, e.g. subordinated debt holders, need to have their positions maintained, rather the reverse. The more that an institution is 'too big to close down', the more that it is essential to disenfranchise the senior management, the shareholders, and, perhaps, the subordinated debt-holders after a bail-out, in order to avoid moral hazard. Moral hazard is a syndrome attached to human decision-makers, not to impersonal institutions. There are, however, disadvantages connected with such disenfranchisement, (on account of concern with moral hazard). When equity/debt holders in institutions similar to the failed (but rescued bank) see the penalties imposed, they too will run, making it more difficult for such similar banks to raise additional capital, and thus to remain in business. 5. Since such a listing is somewhat arbitrary and subjective, and would also be time and state-varying, and because the regulated would seek to position themselves either just in – or outside of – such a dividing line, such a list should not be made public, but could be reported confidentially to the appropriate sub-committee of the legislature.

Move on next to large, but not systemic institutions. Here we have in mind mainly insurance companies, especially life insurance companies, and pension funds. In these cases there is little, or no, leverage, and the liabilities are generally of longer duration than the assets, so there is relatively little maturity mismatch. In such cases there is again, in general,⁶ no need for macro-prudential controls. On the other hand being large-scale repositories of private sector savings, they must behave in a way that is individually prudent. They should, therefore, be subject to full micro-prudential regulation and supervision. Unit trusts, and closed-end trusts also fall into this category.

The final category consists of those institutions which are too small to be individually systemic, but those which are levered, and can therefore be 'systemic as a herd'. Here we can, perhaps, make a sub-division between those institutions which only, or primarily, accept funds (deposits) from professional investors, e.g. hedge funds and private equity, and those which accept funds from small depositors, e.g. small banks, S&Ls and building societies, savings banks, etc. The former probably only need macro-prudential controls,⁷ (reporting, and being subject to control over, leverage ratios and rates of expansion). On the other hand those who take funds from small, and non-professional investors must remain subject not only to macro-prudential, but also to micro-prudential control.

5 The Structure of Regulation and Supervision

The focus of our work, especially in the Geneva Report, has been on the need for macro-prudential regulatory controls, to supplement micro-prudential controls. These macro-prudential controls need to be capable of counter-cyclical adjustment, in order to counter the procyclical effects of the combination of the Basel Capital Accords and mark-to-market, fair value accounting (IFRS, international financial reporting standards). The next question is how should the administration of these two, different kinds of control be structured?

Our basic answer to this is that micro-prudential controls should be undertaken by a single Financial Services Authority (FSA), covering the whole range of financial services, and all institutions. In contrast, macro-prudential control and oversight should be undertaken by the Central Bank. Micro-prudential oversight should be done on a consolidated basis, primarily by the FSA in the home country, whereas macro-prudential control should be assumed by the Central Bank in the host country.

Let me expand on the above assertions. Macro-prudential oversight and control need only be applied to a sub-set of financial intermediaries, the larger, levered (and mis-matched) institutions; micro-prudential oversight will be needed for all intermediaries, including many without systemic impact and for which the Central Bank has no expertise. Micro-prudential oversight is concerned with conduct of business and prevention of fraud, whereas macro-prudential oversight relates to the inter-face between the financial system as a whole and the real economy. Fraud and abusive conduct of financial business are, alas, perennial, and a Central Bank should want to avoid a loss of reputation when such abuses occur. Per contra, when a systemic, cyclical failure occurs, the Central Bank cannot, and should not, avoid becoming fully involved, if only because some of the key instruments involved, e.g. the adjustment of interest rates and the provision of liquidity, via open market operations, quantitative easing and lender of last resort (LOLR) actions, are integral to the functioning of Central Banks.

⁶. But this may not be so in particular cases. Some insurance firms, notably the mono-lines and AIG, have taken to insuring financial institutions against credit risks, e.g. via credit default swaps, CDS. Since the latter are, of course, cyclically systemic, this means that their insurers are also cyclically systemic, and must therefore also be subject, in this line of business, to macro-prudential controls. ⁷. The Madoff case has, however, shown that even professional investors, or those who can afford professional advice, can be gullible. Some limited form of micro-prudential oversight, if only to check that the balance sheet has been properly audited, may remain necessary.

The ethos and professional skills of Central Banks and FSAs differ. Central Banks are, and should be, more economics oriented and focussed on the interaction of markets and institutions. FSAs are, and should be, more focussed on the behaviour of each individual institution, and will be primarily staffed by accountants and lawyers. Their viewpoints, concerns and attitudes will differ.

A Central Bank with macro-prudential control responsibilities will want direct access to on-site inspection of systemic institutions, and the ability to approach smaller institutions in the 'systemic as a herd' category. That will require some over-lap with the similar micro-prudential investigations of the FSA. Systemic, large banks, for example, would be subject to approaches from two oversight bodies. But these two bodies will have quite different viewpoints, and will have distinct agenda. While it may seem a minor waste of resources, to have two oversight authorities examining the same institution, if that should help to prevent systemic financial crises, which are demonstrably extremely expensive, it will be fully justified.

We have proposed, in the Geneva Report, additional macro-prudential controls. Despite the varying relationships that currently exist, from one country to another, in the relationships between Central Banks and other financial supervisory bodies, we believe that it follows quite logically that these extra controls should be administered by the Central Bank (and that micro-prudential and conduct of business supervision should be undertaken by a, or several, financial supervisory authority(ies)). What is more radical, and no doubt contentious, is our further proposal that Central Bank macro-prudential controls should be applied on a host country basis, whereas micro-prudential control should be on a consolidated, home country basis.

There are several reasons for this proposal. In the first place, despite increasing economic globalisation, we do not yet have a single world cycle. Credit, and asset price, expansion took quite different paths in, for example, USA, Spain, Germany, Japan and China between 2003 and 2006. While the principles and methodology of counter-cyclical regulation need to be agreed and harmonised on a world-wide basis, its application needs to be appropriate to conditions in each regulatory area.

Next, the authorities, especially the Central Bank of each regulatory area, are charged, by their government, with the responsibility of maintaining the health and proper functioning of their own financial system. Unless they have the powers and instruments to do so, they cannot properly carry out their chief function. Especially in the many countries where subsidiaries of foreign banks play a major role in the domestic financial market, this implied that the host central bank should have command over the local macro-prudential controls applied to such subsidiaries' capital and liquidity. Admittedly this would introduce some frictions into the operations of large, cross-border, systemic international banks, but domestic financial markets need to be run for the benefit of local inhabitants, not for the benefit of Citi or UBS, (not that these banks have, in practice, benefited much more from the prior system).

Then again, the experience of the last couple of years reinforces the fact that "cross-border banks are international in life, but national in death". When financial turmoil strikes, crisis management has become the responsibility of the nation state, and it has been extremely expensive to carry out such responsibilities. When a cross-border financial institution has gone under, e.g. Lehman Bros, Fortis, Dexia, the bits were picked up by the respective nation states involved. Recapitalisation, guarantees, insurance against defaults, 'bad banks', etc., all have been undertaken by the relevant nation states. The supra-national and international financial intermediaries have played relatively little role, until some smaller countries ran short of foreign currency reserves.

It would be difficult to leave such expensive, crisis management as a national responsibility, while transferring regulation and supervision to a supra-national level, for example in the euro-zone. The burden of crisis management falls, at present, on national taxpayers. To leave that burden on national taxpayers while supervision was done by a supra-national body, whose control was divorced from the national government, would be a version of taxation without representation, and would not have proper democratic legitimacy. Those, especially those in Europe, wishing to shift supervision onto a pan-European basis, need to review first, as a precondition, how expensive crisis management can be undertaken and financed on an equivalent pan-European basis. There have been ideas presented to help achieve this desideratum, e.g. Goodhart and Schoenmaker (2006, 2009), CEPS (K. Lannoo) (2008), Gros and Micossi (2008a and b), but these are still at the exploratory stage.

Moreover, while we advocate placing responsibility for macro-prudential control with the host country Central Bank, we see and support the need for consolidated, micro-level, control by the home country FSA, as has been the objective of the Basel Committee on Banking Supervision. This would give a different twist, and a larger role, to the College of Supervisors, since the home country would have the final say on micro-prudential issues whereas the host country (Central Banks) would determine their own macro-prudential instruments. This would lead to a better, and more useful, balance in such discussions.

6 Conclusions

Current micro-prudential regulation, notably the Basel Accords on capital adequacy, has focussed on the prudential state of the individual bank. While this is necessary, it has led, in conjunction with the introduction of IFRS, to a procyclical bias to the existing regulatory structure. This was instrumental in aggravating the current financial turmoil and crisis. In this paper, based on our longer Geneva Report, I have outlined how the cyclical effects of financial operations could be measured, transformed into a counter-cyclical set of instruments, and administered by the host Central Bank of each country.

REFERENCES

- BRUNNERMEIER, M., CROCKETT, A., GOODHART, C., PERSAUD, A. and H. SHIN (2009). *The Fundamental Principles of Financial Regulation*, Geneva Report, CEPR, ICMB and VoxEU.
- CEPS TASK FORCE (2008). *Concrete Steps towards More Integrated Financial Oversight: The EU's Policy Response to the Crisis*, by K. Lannoo (December).
- DANIELSSON, J., EMBRECHTS, E., GOODHART, C., KEATING, C., MUENNICH, F., RENAULT, O. and H. SHIN (2001). "An Academic Response to Basel II", Financial Markets Group Special Paper, #130, London School of Economics.
- DAVIES, B. (2009). *Restoring a properly functioning banking system*, work in progress.
- GOODHART, C., HOFMANN, B. and M. SEGOVIANO (2004). "Bank Regulation and Macroeconomic Fluctuations", *Oxford Review of Economic Policy*, Vol. 20, (4), 1-25.
- GOODHART, C. and D. SCHOENMAKER (2006). "Burden Sharing in a Banking Crisis in Europe", *Economic Review*, no. 2, Sveriges Riksbank, Stockholm, 34-57.
- (2009). "Fiscal Burden Sharing in Cross-Border Banking Crises", *International Journal of Central Banking*, 5(1), forthcoming.
- GOODHART, C. and M. SEGOVIANO (2004). *Basel and Procyclicality: A comparison of the Standardised and IRB Approaches to an Improved Credit Risk Method*, Financial Markets Group Discussion Paper, #524, London School of Economics.
- GOODHART, C. and A. TAYLOR (2007). "Procyclicality and Volatility in the Financial System: The Implementation of Basel II and IAS 39W", in *Procyclicality of Financial Systems in Asia*, eds. S. Gerlach and P. Gruenwald (London: Palgrave Macmillan).
- GROS, D. and S. MICOSSI (2008a). *Crisis Management Tools for the Euro-area*, VoxEU, <http://www.voxeu.org/index.php?q=node/1722>.
- (2008b). *A Call for a European Financial Stability Fund*, VoxEU, <http://www.voxeu.org/index.php?q=node/2506>.
- REPULLO, R., SAURINA, J. and C. TRUCHARTE (2009). *Mitigating the Procyclicality of Basel II*, work in progress, CEMFI, Madrid.
- REPULLO, R. and J. SUÁREZ (2008). *The Procyclical Effects of Basel II*, CEMFI Working Paper no. 0809, Madrid.
- SEGOVIANO, M. and C. GOODHART (2009). *Banking Stability Measures*, IMF Working Paper 09/04, Washington.
- SEGOVIANO, M., GOODHART, C. and B. HOFMANN (2006). *Default, Growth and Asset Prices*, IMF Working Paper, 06/223, September.

APPENDIX 1

Restoring a properly functioning banking system (*)

1 The Old Regulatory Regime

One of the most important roles of banks is as a “sponge” that soaks up credit risk as an economy goes through an economic cycle.

Up until the current crisis the systematic deterioration of credit risk of virtually all banks assets, which inevitably occurs as an economic cycle goes from growth to contraction, has needed a relatively small amount of capital to absorb it.

This is because:

- Under Basel I the amount of capital a bank held against an asset was driven by the assets “risk weight” (RWA). The legal nature of the obligor (e.g. government, bank, corporate etc.) was taken as a proxy for the credit risk of the obligor and as a result the banks total of RWAs and thus its capital requirement was largely invariant with the economic cycle.
- The old UK GAAP accounting rules recognised that banks held assets under two regulatory designations “trading book assets” and “banking book assets”.
 - (i) Trading book assets were largely restricted to those assets in which there was an active and liquid market. These assets were subject to “mark to market” valuation, with any market price changes being taken through profit and loss. In the event of markets becoming illiquid, assets could be transitioned to the banking book at current market price.
 - (ii) Banking book assets were held at cost and subject to specific provision only in the event of their becoming impaired, the test for which was failure to receive interest or principal when due. Across an economic cycle most assets, whilst their credit grade deteriorated, did not fall into an impairment category and so banks had no need to raise a specific provision against them. The economic cycle effect was taken through the raising of a general provision but these were linked to historic impairment (being largely defined as failure by the obligor to make contractual payments when due), not to any change in market price. This meant that general provisions were backward looking whereas asset price changes often reflect expected future impairment

The vast majority of banks assets were held in the banking book.

As a result of these two regulatory regimes the amount of assets a banks capital could support was relatively little affected by the economic cycle and the amount of capital it could retain from profits was also “damped” by the impairment test for specific provisions and the backward looking nature of general provisions.

2 The New Regulatory Regime

Today both Basel I and old UK GAAP are history and in their place we have two new regulatory regimes, Basel II and IFRS which turn the sponge into a bell where every credit deterioration is amplified such that rather than diminish the bank capital implications of cyclical movements in credit risk they exaggerate it, producing a disastrous effect on banks capital ratios.

(*) By Brandon Davies.

Brandon Davies has been Head of Retail Market Risk and Deputy Group Treasurer at Barclays Bank, and Managing Director of Financial Engineering and later of Structured Products at BZW. He is currently non-executive director of Gatehouse Bank plc and of Oceanic Bank plc.

This is because:

- Under Basel II RWAs are primarily determined by the credit grade of an obligor. Any systematic improvement in credit grades, as will occur in the growth phase of an economic cycle, reduces the banks requirement for capital to support a given level of assets. The bank is, however, subject to a capital ratio which is invariant with the economic cycle. It is thus incentivised either to acquire more assets to increase income and thus its return on an unchanged amount of capital, or, to repay surplus capital to its shareholders. In the contraction phase of the cycle the systematic deterioration in credit quality (grade) produces a rise in the RWAs of a bank, requiring an increase in capital resources to maintain the same total of balance sheet assets or a significant reduction in the amount of assets supported by a given amount of capital.
- IFRS has produced an even greater effect on capital ratios because any fall in the price of an asset in the new accounting categories ‘available for sale’ and ‘held for trading purposes’ produces a reduction in capital by the amount of the fall in price. In practice these two accounting categories for assets cover a much greater proportion of the assets on banks balance sheets than was the case for “mark to market” assets under the old UK GAAP. This is because the new categories cover any assets where there is an intention to sell the assets. Such assets are often held for prudential regulatory purposes in the banking book, which is actively managed as is the case with any investment portfolio. This has led to many relatively illiquid and long term assets such as loans to private equity, securitised assets such as mortgages and illiquid bonds such as Sukuks, being covered by these categories. The improvement in credit grades in the expansion phase of an economic cycle thus increases available capital resources as asset values (prices) rise, moreover, this effect is reinforced by improvements in the liquidity of the markets for these assets as there are more purchasers for these assets. In the deterioration phase of the cycle the reverse process drives prices and because of the drying up of liquidity may cause these asset prices to deteriorate significantly below that which would be implied by their risk adjusted cash flows. If the assets were short term assets this effect could not last long but many of these assets (unlike those typically covered by mark to market) are long term assets.
- IFRS accounting principles are effectively based upon the efficient markets hypothesis and thus assumes that illiquidity of markets do not affect price, an assumption that is manifestly untrue. If illiquid markets drive prices below their risk adjusted expected future cash flows then banks are incentivised to hold rather than to sell the asset. This is because the fall in price which includes an increased cost (spread) of liquidity, will in either case reduce their capital resource by the fall in price, yet the liquidity cost will be recovered if the asset is held to maturity. Market price based accounting needs to recognise that markets exist in two different states of the world, a liquid state, when it may be assumed that market prices are not affected by market liquidity and an illiquid state where market prices incorporate a cost of liquidity that should, if the institution has funding liquidity to finance the holding of the asset, not be reflected in the “fair value” of the asset.

The capital ratio of banks is being squeezed from both ends in the contraction phase of an economic cycle. In this phase the systematic deterioration in credit grades of borrowers will, in accordance with Basel II regulations, increase the FWA numerator of the ratio. Moreover as the

market price of assets fall there will be a writing down of bank capital and thus a fall in the denominator as required under IFRS and by more than is required to reflect the increased credit risk (as it also reflects the cost of market illiquidity).

Banks have been especially vulnerable to these pro cyclical effects on their capital ratios, an effect that has grown as they have moved more loan assets into securitised form in order to trade them and thus improve the banks liquidity. Such assets will normally be held as available for sale or held for trading purposes. What should have been a benefit to the banking system, the ability to diversify credit risk through traded markets and to improve banks liquidity management by reducing their reliance on deposit funding, has proved disastrous. The volatility of these asset prices has been driven by credit and especially liquidity issues which has resulted in near unavailability of prices even for assets where there is no evidence of a significant change in impairment levels. Moreover some of the conventions (rules) surrounding IFRS implementation serve to increase these problems:

- The so called “law of the last price” can often result in the general use of a price for asset values across institutions and a class of assets that represents the price between a distressed seller and a predatory buyer.
- The lack of any general transition rules limits the ability of banks to recognise the way that market liquidity can evaporate.
- The use of market prices incorporates a cost of market liquidity (the ability to turn an asset into cash), but for many banks that have access to funding liquidity through their holding long term stable deposits and the intention to retain an asset for a period beyond any period of market illiquidity, the cost of market liquidity is irrelevant.

The fault at the heart of both the Basel II and IFRS regulatory regimes is an over reliance on changes in market prices as a proxy for risk in the case of Basel II and for profitability in the case of IFRS. This “power of price” has its origins in the belief in efficient markets, a hypothesis that assumes markets are always perfectly liquid and that all investors have perfect information and the resources to allow them to purchase assets based on a perfect knowledge of likely future performance.

In reality markets are very imperfect constructs and reforms to both Basel II and IFRS need to recognise this.

The paper focus on the procyclicality aspect of financial regulations, including in particular those pertaining to credit, banks and insurance companies, and financial markets. The reader will find various examples of regulations and practices that could be financially procyclical, i.e. lead to more rapid increases in asset prices in periods of growth, and to faster decreases during downturns, or even lie at the origin of cycles. Suggested Citation. Stéphane Auray & Christian Gouriéroux, 2015. "Financial Regulations and Procyclicality," Bankers, Markets & Investors, ESKA Publ PDF | Financial systems have an intrinsic tendency to exacerbate business cycle fluctuations rather than smoothing them out. The current crisis is a perfect illustration of this. Some commentators have argued that the recent reforms to international bank regulation (Basel II) and... prudential regulation and supervision of financial intermediaries. But these regulatory/supervisory. Jean-Charles Rochet: "Procyclicality of financial systems: is there a need to modify current accounting and regulatory rules?" 98 Banque de France "Financial Stability Review" No. 12 "Valuation and financial stability" October 2008. excess of regulatory minimums, in order to cover losses due to predictable economic downturns.