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PROCYCLICAL FINANCIAL BEHAVIOUR: WHAT CAN BE DONE?

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1. Introduction

The role of the financial sector in the business cycle has long been a subject of study, but has moved somewhat more to the fore in recent years. In part, the renewed interest has been motivated by the apparent increase in the frequency of asset price events, typically facilitated by the extension of credit, and their heightened importance for economic performance in the industrial economies. In addition, the work on the revised Basel capital accord has focussed attention on the possibility that regulatory arrangements might exacerbate the cyclical behaviour of banks. The fickle nature of cross-border capital flows, including in Asia in the late 1990s, brings an international dimension to the issues.

This paper attempts to provide a brief summary of the issues, and the possible policy responses which have been mooted. It begins in part 2 with a discussion of procyclical financial behaviour and why it is a problem. Part 3 then groups possible responses into four types, while part 4 offers some concluding observations.

2. Procyclical Financial Behaviour: What is the Problem?

In a number of countries, the business cycle as conventionally understood has been less pronounced over the past decade or more. It is not that cyclical fluctuations have disappeared altogether – the recession in the G7 countries of 2001 showed, again, that talk of the death of the business cycle was premature (and indeed, was itself an indicator of impending downturn). But the recession for several countries was one of the mildest in decades, if measured by the usual metrics of the size of decline in real GDP, or the rise in unemployment. Moreover, it is well known that short-term variability in economic activity across a range of countries has been declining over the past couple of decades.

In part, this perhaps reflects the fact that economic policies have had a measure of success in dealing with the sorts of problems that plagued industrial economies in the 1970s and the early 1980s: high inflation expectations, inflexible supply-side structures, overly ambitious growth objectives, flawed policy frameworks and so on. The broad agenda of market liberalisation, disciplined fiscal and monetary policy, international opening, acceptance of structural change and attention to strengthening institutions surely made an important difference to economic performance in those countries which, to varying extents, pursued it.

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The market liberalisation extended, by and large, to the financial sector of the economy too. It could be argued that in those countries with the most competitive and innovative financial sectors, financial markets are starting to resemble the textbook capital market. It is not that big an exaggeration to say that, during normal times at least, credit is available, at a price, to virtually any potential borrower. The household sector's gross assets are increasingly able to be collateralised, and their liabilities securitised, with households being able to run much larger balance sheets that are adjustable more or less continually throughout their life-time.

Financial innovation is the supply side part of this financial deepening story. The demand side is also important. It is presumably largely one of earlier unfulfilled demand now being met. But in addition, the very success in improving macroeconomic stability may be the thing which gives households confidence to accept a degree of indebtedness that previous generations would not have wanted, even if it had been available.

As balance sheets have become larger, financial factors have come to play a more important role in shaping macroeconomic developments. Of course, the "financial accelerator" is nothing new. It has long been the case that an increase in collateral values makes credit easier to obtain in an expansion and that, in turn, the greater available of credit adds to the expansionary forces. In a recession, the process works in reverse. What is new, however, is the size of the financial resources that can be made available – and be withdrawn – compared with that of the overall economy.

While the availability of these resources offers households and businesses new opportunities, it raises two interrelated problems.

The first arises from the tendency for markets and institutions to underestimate risk in good times, and then to overestimate it when something goes wrong.[1] The result is all too often a large swing in the availability and pricing of credit. In the late 1980s, markets and institutions were willing suppliers of finance to commercial property developers in many countries, only to turn the tap off abruptly a few years later. In the late 1990s, it was technology companies that received and then lost the funding. And in Asia, there was a tremendous inflow of foreign capital up until 1997, and then a sharp reversal.

While the particulars of each episode differ, a common theme is that during the good times, signs of potential problems are ignored or downplayed, and a sense of euphoria takes hold. Then, when the problems materialise, risk aversion increases sharply and exposures are wound back. In some cases, the end result is financial instability and a severe recession. In other cases, the financial system is able to withstand these swings but the amplitude of the business cycle is increased.

The second issue is the potential for regulatory arrangements to exacerbate the procyclical behaviour of financial institutions. Lagged regulatory response to economic and financial developments – "too much too late" – has always been a potential problem. But some argue that the move towards risk-based capital standards and fair value accounting make it more likely than in the past that the regulatory structure will contribute to the swings in the supply of funding. The probability of this occurring is likely to be higher if markets and institutions are subject to the sort of misperceptions of risk discussed above.

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[1] For more details, see Borio *et al* (2001).

In the remainder of this paper we consider the ways in which policy might respond to these two interrelated phenomena.

3. Policy Possibilities

In principle, policy-makers have a wide range of options for dealing with the procyclical behaviour of the financial sector. These options can be classified under a number of general headings:

- *Supervisory Policies*

  To the extent that supervisory policies contribute to financial cycles, policy-makers could modify those policies. Supervisors could also use their instruments in a counter-cyclical fashion to ameliorate the procyclical behaviour of institutions subject to prudential regulation. Such an approach could reduce the amount of risk in the financial system, although in deregulated systems it may simply shift risk away from institutions subject to prudential regulation to institutions/markets that are less regulated. In some cases, this later outcome might be a desirable one in itself, particularly if the financial system is sounder if risk is widely dispersed, rather than concentrated in the banking system.

- *Disclosure and Accounting*

  If the problem is a misassessment of risk then better information might lead to better risk assessment. This information could be institution specific and/or macroeconomic in nature. It could also include assessments by the authorities of the extent of risk in the system, and how it has changed through time.

- *Macroeconomic Policy*

  Here there are two elements. The first is to tighten policy when there are signs that risk is being underestimated and imbalances are developing. The aim would be to contain any imbalances before they got to the point where they risked derailing the economy. The second is to ease policy aggressively immediately after the "bust", in an effort to alleviate the contractionary effects of the reduced supply of funding and balance sheet restructuring. The former is an *ex ante* policy response, the latter, an *ex post* response. In most discussion, it is assumed that monetary policy is the instrument of choice, but in principle, fiscal policy might also be able to be used in this way, although the difficulties involved, particularly for *ex ante* fiscal responses, are likely to be even larger than is the case for monetary policy.

- *Institutional and Policy Framework*

  To the extent that the fundamental concern is the damage done by errors in risk assessment and sudden changes in investor sentiment, one response is to develop a macro-policy framework that lessens the costs of these errors and sudden changes. Where the possibility of swings in capital flows are a significant issue, the nature of the exchange rate regime and capital controls are obviously relevant considerations. More broadly, the quality and stability of institutions is important.

These possibilities are discussed in more detail below.

(i) Supervisory Policies

The discussion of supervisory options most often focuses on minimum capital requirements, although there are other possibilities as well. These include: restrictions on loan-to-value ratios, limits on the growth of bank lending, mandatory loan provisioning requirements, and restrictions on the type of borrowers who can access bank loans or other funding.

In principle, any of these instruments could be used in a counter-cyclical manner to contain a build up of risk in financial institutions that supervisors viewed as undesirable. A number could also be used to generate buffers in financial institutions during the good times to be drawn upon in the bad times.

The focus on cyclical adjustments in capital requirements has partly resulted from the work of the Basel Committee on Banking Supervision in developing the new capital *Framework* (Basel II). Compared with its predecessor, the new arrangements will more closely align regulatory capital requirements with banks' own assessments of the riskiness of their assets.

A number of aspects of the new arrangements should promote the stability of the financial system (Thoraval and Duchateau (2003)). One is the incentive that they create for banks to invest in advanced risk management systems. Another is the promotion of more timely disclosure of information, allowing both market and supervisory discipline to be more effective. A third is ensuring that institutions that run relatively high risks hold relatively high amounts of capital. Together, these factors should reduce the probability of the type of problems that can cause major financial disruptions.

Despite this positive effect, concerns have been raised about the potential for the new arrangements to amplify economic cycles.[2] While few would disagree with the basic idea that *at any given point in time*, more capital should be held against high-risk portfolios than low-risk portfolios, there is less agreement about how this essentially cross-section idea should be translated into the time domain. One concern is that if risk is mismeasured through time – underestimated in the good times and overestimated in the bad times – then linking capital requirements more closely to measured risk could ultimately be destabilising. Another is that, even if risk is measured "correctly", it may not be optimal from society's point of view for minimum capital requirements to fall in economic expansions and increase in contractions, particularly if capital is scarce during contractions (Kashyap and Stein (2004)). Indeed, the opposite may be true.

Some researchers have back tested Basel II through the observed (downward) migration of credit ratings in historical episodes of recession or market stress, an exercise which typically shows a very substantial rise in regulatory capital minima as measured risk increases.[3] Coming at a time when capital markets are tightening up because of general economic downturn, and in which banks' capital is already being eroded by a rise in non-performing loans, this could pose considerable difficulties, forcing banks to unduly cut back lending.

The Basel Committee has responded to these concerns. In particular, it has reduced the sensitivity of capital charges to credit risk, with the result that changes in measured risk through the economic cycle are likely to have a smaller impact on minimum capital

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[2] For a discussion of the relationship between various measures of credit risk and the business cycle, see Lowe (2002).

[3] See, for example, Catarina-Rebell *et al* (2003), Kashyap and Stein (2004) and Segoviano and Lowe (2002).

requirements than under earlier proposals. It has also stated that when supervisors assess the adequacy of a bank's capital under Pillar 2, they should be mindful of the current state of the economy.

A number of other initiatives have been suggested.

One is to further reduce the sensitivity of capital charges to credit risk. This would be a step back towards Basel I, with its completely flat curve, and would come at the cost of a loss of the structural sensitivity of capital requirements to cross-sectional differences in risk.

Another is to adjust capital requirements via a partial-adjustment function (Gordy and Howells (2004)). The idea would be to use the new Basel Framework to ensure that, in the cross-section domain, capital requirements were commensurate with risk, but to adjust capital requirements through time more slowly than would occur under the current proposals. During a protracted downturn banks would still, in due course, be required to find more capital but this would be spread out over a few years rather than apply immediately. Likewise, any reductions in capital requirements during a boom would take place slowly. This smoothing could lessen the amplitude of changes in lenders' behaviour, but would still align capital to risk reasonably closely on average. Presumably, no smoothing rule will be optimal for all circumstances, but some rules might be not far from optimal over a range of plausible circumstances.

A third possibility is to shift the whole risk-capital curve up or down according to circumstances (Goodhart (2004) and Kashyap and Stein (2004)). This could be done in a discretionary way under Pillar 2 of Basel II, by the supervisors simply adding an additional capital charge during an upswing, and removing it during a downswing. Alternatively, the height of the curve could be adjusted based on some type of rule. Goodhart, for example, suggests a rule linked to the key systemic risk factor.

While such adjustments in the whole curve have some appeal, they face a number of practical difficulties. It is, for example, less than clear how the community would react to a decision by supervisors to increase capital requirements on the grounds that risk in the banking system had increased, when most observers can only see "good times" prevailing. Nor is it clear what type of institutional setup is required to limit regulatory forbearance during a downturn. Discretion is a wonderful thing, but it needs to be accompanied by the correct institutional setup so that those who possess it cannot be forced (eg by the industry lobbying the political process) to use it inappropriately, and by the correct incentives so that they will not voluntarily do so. Compared with monetary policy, where there is considerable consensus regarding the goals of policy (in particular, medium-term price stability) and a high degree of instrument independence for the central bank in pursuing these goals, discussion of the institutional setup of supervision seems much less well developed.

Rule-based approaches are also likely to face difficulties. While Goodhart's idea is attractive, the problem is that "the systemic factor" is not observable. Further, there is no consensus regarding the set of variables that could be used to construct a synthetic systemic risk indicator. Nor is there a consensus that, in the event that such an indicator could be developed, it should be used for adjustments in capital requirements across the entire banking system. While recent research has made good progress in understanding the determinants of

systemic risk, we remain a long way from developing a measure of aggregate risk that policy-makers could have confidence in.[4]

The comparison with monetary policy is again instructive. For good reason, central banks do not use a mechanical rule to adjust monetary policy, despite the relatively robust relationships between price stability, interest rates and the variables that would appear in any such rule, including expected economic growth and inflation. If such rules are not embraced in the conduct of monetary policy, they are unlikely to be embraced for prudential policy where, especially when compared with monetary policy, there is much less agreement regarding how any such rule should be formulated. If the alternative is to be discretionary adjustments in prudential requirements, thought needs to be given to the institutional set-up that allows such adjustments to be made, including the independence and accountability of the supervisory authority.

Despite the difficulties, each of these options is clearly worthy of further study. Another possibility is for a rule to be used, with the rule being based not on macroeconomic considerations, but on the difference between a bank's actual and expected, or average, losses. This difference, averaged across the system as whole, should be quite highly correlated with the unobservable systemic risk. This option is discussed in more detail below.

One important factor in assessing the merit of all these ideas is the extent of existing regulation of the financial system. In systems in which regulation is relatively light, tightening capital or other requirements on banks may simply encourage the funding that banks would have otherwise provided to be funnelled through other channels, including securitisation. If this were to be the outcome, the distribution of risk throughout the financial system would change, although the level of lending may not. In many cases, this may be a desirable outcome. In more regulated systems it is more likely that such policy could contain the overall amount of funding available.

Another consideration is how markets and institutions are likely to behave in response to cyclical variations in regulatory capital requirements. One possibility is that banks will use lowered regulatory capital requirements in good times to further expand their lending (and in so doing, avoid an increase in their calculated capital ratio). But another is that they will voluntarily hold a larger buffer over the regulatory minimum in good times, with this buffer being wound down when measured risk increases. If this were to occur, any procyclical effects of Basel II could be significantly lessened. This outcome is more likely if rating agencies and financial markets penalise banks through downgrades and higher spreads for expanding the amount of lending undertaken in expansions without increasing the amount of capital that they hold. Supervisors, through Pillar 2, also have an important role to play here.

A final issue is how institutions would change their behaviour in response to a policy regime in which supervisors announced that they were prepared to use regulatory instruments in a counter-cyclical fashion. Such a regime has the potential to increase moral hazard, with banks prepared to lend heavily whenever the supervisor assessed risk as low. If the supervisor's assessment turned out to be wrong and problems developed, the government might find itself under increased pressure for a bail-out. Such a regime might also encourage the growth of institutions outside the prudentially regulated sector.

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[4] See, for example, Borio and Lowe (2002a, 2002b, 2004).

(ii) Disclosure and Accounting

A second broad option is to improve the quality of information available to the market. After all, to the extent that systematic errors in measuring risk are a source of procyclical financial behaviour, better information offers the potential to reduce these errors and thus contribute to a more stable financial system. There are two broad classes of relevant information.

The first is information that relates to the determinants and assessments of risk at the aggregate level. This tends to be macroeconomic in nature, including details on the growth and structure of balance sheets, and the concentration of exposures. In a number of countries, even quite sophisticated ones, this type of financial information is quite poor. A good example is property prices. Few countries, if any, have price series on residential and commercial property prices of anywhere near the quality of a whole range of spending indicators (retail trade, housing starts, etc). Given the large role that asset prices booms play in macroeconomic and financial stability this is a serious shortcoming. In most countries, information on the structure of corporate and household balance sheets is also comparatively poor, as is information on the distribution of debt across households.

Another piece of relevant information under this general heading is the macro-surveillance undertaken by the authorities to assist with the identification of aggregate risks in the financial system. A number of central banks have started providing this information on a regular basis through the publication of Financial Stability Reviews. Such assessments, if backed up with high-quality analysis, may feed into assessments of risk by the private sector. Supervisors and central banks can also play a role in framing the type of stress-tests that banks undertake. Over recent years, the official sector has played an important role in developing industry wide stress tests, partly reflecting participation in the IMF/World Bank Financial Sector Assessment Program (FSAP). In a number of cases, banks now look to the central bank/supervisor to specify appropriate stress tests, with these tests playing a role in banks' overall assessment of the riskiness of their portfolios.

The second class of information – typically accounting information – relates to individual firms. In this regard, the new International Financial Reporting Standards developed by the International Accounting Standards Board have attracted considerable attention. These standards embody a move towards fair value accounting which, to the extent that it leads to assets and liabilities being valued more accurately than under the current mixed-method accounting regime, should promote both the efficiency and stability of capital markets. Increased transparency may also promote greater market discipline, which could help limit the extent of mis-pricing of risk.

Yet despite this, some have criticised elements of fair value accounting as likely to exacerbate procyclicality, insofar as periods of unusually high or low market sentiment could affect the valuations of various assets and lead to greater volatility of profits.[5] If risk is underestimated in a boom, assets are likely to become overvalued, only to then become undervalued in the bust when risk aversion increases. The result could be swings in funding that are larger than is now the case.

There is something of a tension between the desire for accounts to be based on "objective" measurement of a firm's position, and the fact that the market prices on which such

[5] For a discussion of the implications of the new accounting standards for financial institutions and financial stability, see ECB (2004) and Matherat (2003).

measurements are based are themselves the product of the subjective judgement of market participants, which may well diverge from the "true" (though unobservable) underlying values in significant ways. It may be that, in Charles Goodhart's words, "fair, market values rule, OK",[6] but as Goodhart immediately notes, that does not mean that fair value accounting does not need to be combined with some sort of additional rule, perhaps of the supervisory type discussed above.

One option that has been proposed (although not specifically in response to fair value accounting) is a form of statistical provisioning (Poveda (2000) and Jaudoin (2001)). The general idea is to create extra provisions when times are good and risk, although increasing, might be mismeasured. The resulting charges to bank's profits in these periods would dampen the cyclical profit upswing, and hence any tendency to undue exuberance which might otherwise occur. The reverse would be the case in the downswing.

A system of this form has been implemented in Spain. There, banks must charge provisions against loans, by type, to a statistical fund, with the provisions based on average, not current, loss experience. This fund is then available, in periods when asset quality deteriorates, to be drawn down. The result should be less cyclical variation in banks' reported profits, and by implication, less cyclical fluctuation in the banks' own cost of capital and behaviour.

While this approach has some appeal, it is often not favoured by accounting standard setters (or taxation authorities). It typically involves the creation of a provision at the origination of a loan, with the result that the carrying value of the loan on the balance sheet is less than 100 cents in the dollar. Understandably, accounting authorities do not like this, for if the loan has been properly priced, it should not be carried at less than its face value. Doing so potentially introduces a distortion into the value of the bank's assets, which ultimately could reduce the usefulness of its accounts. Supervisors tend to be less concerned about this than the accounting profession, as the undervaluation of loans in an upswing effectively creates (hidden) capital than can be drawn upon in a downswing. Some also see it as an offset to any tendency of banks to underestimate risk and underprice loans when the economy is doing well.[7]

One way of potentially resolving this difference in perspectives is to apply the underlying idea, not to provisions, but to capital (Borio and Lowe (2001)). During times in which actual losses on a loan portfolio are less than expected, or average, losses, the "unexpected" profits could be added to the bank's regulatory capital requirement. This would limit the potential for banks to pay these profits out to shareholders, instead retaining them in the bank for the time when losses are worse than expected. Such an approach would have the advantage of allowing asset and liability values to be determined on rules determined by the accounting profession, but at the same time meet the supervisors' desire to see buffers in the banking system increase in good times.

Under such a system, there could be cap on this "cyclical capital requirement" (as there is with the Spanish statistical requirement) to ensure that the requirement does not become too large when the economy experiences an extended run of good years. The system could be linked to banks' expected loss estimates used for the purpose of internal ratings. It would

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[6] Goodhart (2004), p. 13.

[7] Spain handles some of these tensions by having the central bank as the standard setter for accounting. Provisions made to the statistical fund do not confer tax advantages in Spain.

apply automatically, but would avoid the problem discussed above with the rule-based capital adjustments of having to specify the variables in the rule.

(iii) Macroeconomic Policy

A number of the above proposals rely on a counter-cyclical regulatory overlay on the structural regulations aimed at promoting the integrity of the financial system. An alternative approach is counter-cyclical macroeconomic policy, and here the policy instrument that most people have in mind is interest rates. In particular, there have been some proposals to the effect that central banks might be prepared, on occasion, to increase interest rates in response to perceived imbalances in credit and asset markets, with a view to containing the size of those imbalances, even if only at the margin.

This idea goes beyond the generally agreed notion that central banks should respond to the expected macroeconomic impacts of asset price changes – via wealth effects and so on over the next year or two. It suggests that a larger, and potentially earlier, response than the generally agreed approach may be called for. It contemplates the possible contractionary impacts on the economy of the collapse of a leveraged asset boom, over a horizon beyond the typical one to two year outlook for monetary policy, as a risk to which policy might, in principle, choose to respond. Policy might be tighter than otherwise in the expansion phase of a boom, possibly at some short-term cost to growth, in an effort to lessen downside risks to the economy later.

There has been considerable debate over this idea and no consensus could, as yet, be claimed. Everyone agrees that asset prices per se should not be the *objective* of policy. Everyone also agrees that, subsequent to a large decline in asset prices, policy should almost certainly be eased. But there is much less agreement about the idea of tightening into the boom without clear evidence of a risk in inflation of goods and services prices.

Authors in favour of occasional monetary policy action in the latter fashion include Cechetti *et al* (2000) and Borio and Lowe (2002a). Those of a more sceptical view include Greenspan (2003).

Important issues include:

- The need to distinguish "fundamental" movements in asset prices and credit from those which are not well based. Most asset booms begin with a plausible story about improved fundamentals; it is only later that purely speculative dynamics usually take over. By the time there is reasonable evidence of a problem, a boom is usually well advanced.

- Possible limits, in practice, to the ability of monetary policy to make much difference, at least with modest adjustments in interest rates. Greenspan argues, for example, that the sort of marginal adjustments which might feasibly be made would do little to contain a boom, while the sorts of increases which might stop the boom risk substantial damage across the wider economy.

- The likelihood of a boom ending by itself. Gruen *et al* (2003) show, admittedly in the context of one particular model of asset bubbles, that a well advanced bubble may have a sufficiently high likelihood of bursting of its own accord that the "optimal" policy might even be to start *easing* in anticipation of the expected contractionary effects. At the very least, bubble-like episodes can be highly non-linear and so it is very hard to calibrate policy responses with great confidence.

- Squaring any additional weight given to asset prices with the overall monetary policy regime. Policy-makers have noted the potential communication difficulties (Stevens (2003)). The most promising response to this issue seems to be the idea that, for countries with explicit inflation targets, central banks consider presenting their outlooks, including the risks to those outlooks, over longer horizons, as a way of clarifying why asset price fluctuations might be important.

These issues will no doubt be debated for some time to come. The success of the US policy-makers in restarting growth after the collapse of the tech boom of the late 1990s, however, has taken the edge off this discussion in the US, at least absent some another debilitating asset price boom and bust in the near future. In other countries, such as Australia, New Zealand, and the UK, there is ongoing discussion, focussed more on housing price booms and concerns over a possible bust. In those cases, the fact that central banks have expressed concerns about the housing market has led to a assumption in some quarters that increases in interest rates in the past year were aimed at containing trends in that market. The actual words used by the central banks themselves indicate a more balanced approach, suggesting that the increases were still primarily motivated by standard macroeconomic criteria, though the Reserve Bank of Australia has been clear that housing market developments were one important criterion. When all is said and done, however, making small increases in interest rates a little earlier than might have otherwise occurred is still a fairly modest response to a large boom in credit and asset prices. At the current juncture, that seems to be all that central banks find it reasonable to do. Given the uncertainties involved, that is perhaps not unreasonable.

That being so, a common feature of discussion in countries that have grappled with these issues in the monetary policy realm has been the more than occasional cry for some *other* instrument, with which to respond to asset price booms. Sometimes, tax measures are in mind. But more often, people searching for other instruments have in mind some sort of regulatory response, particularly where the source of the problem is the failure of regulated institutions to measure and manage risk properly. Again, the main instruments are in the hands of the bank supervisors – which takes us back to the earlier discussion.

(iv) Institutional and Policy Framework

Regardless of the instruments that policy-makers have to deal with financial cycles, such cycles, driven by changes in investor sentiment, will inevitably remain a fact of life. A challenge then is to devise institutional and macroeconomic policies that allow the financial system and the economy to deal with these cycles without them imposing large costs on the economy.

At the most general level, political stability, enforceable property rights, a well-functioning legal system and sound accounting and prudential frameworks all reduce (though do not eliminate) the probability of a country being subject to large swings in investor sentiment. Moreover, in the event that these swings do occur, they are likely, given a strong framework, to be less damaging.

In emerging markets, including in Asia, the discussion of these sorts of issues has a very international focus. In the post-crisis period in Asia, a critical consideration has been how best to protect economies from large swings in international investor sentiment, and thus large swings in cross-border capital flows. Relevant issues here include the use of capital controls, the extent of currency and maturity mismatches, the size of reserve holdings and the nature of the exchange rate regime.

Capital controls have a long history of use in emerging market countries, and indeed it is not that long ago that they remained a feature of some G7 economies. By the mid 1990s, opinion in the major countries had hardened against the use of such measures, as reflected in proposals to amend the IMF's Articles so as to promote capital account liberalisation. It seems that in recent times opinion has swung back somewhat in the direction of allowing that, under some circumstances, persisting with or introducing controls might have merit. A key marker here perhaps was the decision of Malaysia in 1998 to not only peg its exchange rate (admittedly at a substantially depreciated level compared with pre crisis) but to impose some selective restrictions on capital outflows – the kind of measures which had generally been thought to be relatively ineffective once a crisis was under way. Combined with the apparently effective use of controls on inflows in some other instances (eg in Chile), perhaps this showed that while capital controls might have long-run costs and become ineffective eventually, on occasion, and for short periods of time, their use might be effective enough, and even prudent. Whatever one's assessment of those or other individual cases, it seems now that there is at least a more even-handed debate about capital controls than was the case a decade or so ago.[8]

A key feature of the Asian crisis was the extent of currency mismatches in the books of borrowers, especially banks. There is a voluminous literature on leading indicators for financial crisis, and the extent of currency mismatch frequently figures as a variable with predictive power (Goldstein and Turner (2004)). Unhedged foreign currency borrowing reduces the scope for monetary policy to manage the downswing phase of a cyclical event where capital flows out of the country. Allowing the exchange rate to decline hits the balance sheets of the unhedged borrowers of foreign currency; raising interest rates to support the exchange rate damages borrowers in domestic currency. Hence it is hard for monetary policy to bring about an appropriately expansionary combination of financial prices to assist the economy in the face of a contractionary shock.

Avoiding such mismatches in a world of flighty international capital is now proposed as an important precaution for emerging market countries. To do so, and still be able to access international capital, a key requirement is for countries to be able to borrow in their own currencies from foreigners. Yet this freedom seems quite rare among emerging market countries, testimony to which is the extensive literature on "original sin" – the idea that, simply by virtue of having the history that they have, some emerging market countries find that there is no demand for domestic currency-denominated debt and, the flip side of this phenomenon, no market in which foreign currency exposure can be swapped for domestic exposures.[9] As a result, they have no option but to take on foreign exchange risk when seeking access to capital even, in some cases, from their own citizens.

The key question, then, is how to promote the development of the markets which will allow better sharing of risk. Some authors favour the issue of securities whose pay-off is linked to GDP growth (Berg *et al* (2002)), or some other economic variable. Caballero (2003) and Shiller (2003) are in a similar vein. Others have suggested that the international community foster the growth of missing markets by having supranationals issue debt in the currencies of emerging market countries (or a composite of them), in the process encouraging the development of swap markets which the emerging market borrowers could then use to

[8] See, for example, Rogoff (2002). Detailed studies of country experiences with capital controls were published by the IMF (Ariyoshi *et al* (2000)).

[9] See Eichengreen *et al* (2002).

manage their own exposures (Eichengreen and Hausmann (2003)). Goldstein and Turner (2004), on the other hand, tend to view the development of a fuller set of markets as the natural (if possibly longer-term) outcome of better domestic policies by the borrowing countries.

It remains to be seen whether any of the more exotic ideas for new instruments and markets will fly. In Asia, at least, one message that has apparently been taken to heart as a result of the problems encountered due to unhedged foreign currency borrowings, and an overly strong reliance on bank lending, is the potential value of local and regional bond markets. Co-operative efforts have been initiated by various groupings to try to identify, and hopefully remove, the various structural impediments and to put in place some things which might accelerate market development. An Asian Bond Fund is being developed by the eleven central banks in the Asia Pacific region known as EMEAP (Executives' Meeting of East Asia-Pacific Central Banks). The first step (ABF I) was the creation of a US dollar fund. The second and more difficult, but more fundamental, step will be the creation of ABF II, to invest in *local* currency-denominated sovereign and quasi-sovereign bonds in the region. There is also work being done under the auspices of ASEAN (Association of South East Asian Nations) plus 3, and the Asian Cooperation Dialogue to foster bond market development. Further, work under the banner of APEC (Asia-Pacific Economic Co-operation) is seeking to promote securitisation and credit guarantee markets, in order to try to narrow the perceived credit and liquidity mismatch between borrowers in the region and institutional investors.

These initiatives are in their infancy but are steps, however modest, in the right direction. They are aimed ostensibly at promoting regional markets but could well be at their most useful if they encourage individual countries to remove unnecessary impediments to development of their domestic markets. Improvements of this kind do not stop markets behaving pro-cyclically, but a diversification of funding sources and spreading of foreign exchange risk are certainly structural improvements in an economy's capacity to cope with procyclical behaviour.

Not unrelated to all of the above has been the evolving decision about exchange rate regimes. A number of Asian countries saw very large declines in exchange rates in the crisis as *de facto* pegged or closely managed exchange rate systems were toppled. In subsequent years the view became very widespread in international circles that on the spectrum from fully floating at one end to "dollarisation" at the other, the only stable positions were at the extremes.[10] This view has tended to wane of late, and Fischer (2001) argues that the proponents exaggerated their view "for dramatic effect". However that may be, our observation is that most Asian countries never accepted the bi-polar view. Instead, it appears that the lesson that most countries took from the crisis was not that fixed exchange rates cannot be sustained, but that they simply needed more resources to sustain them when they come under downward pressure. Having allowed exchange rates to move down, many countries have prevented them from moving up again, in the process accumulating an unprecedented volume of foreign exchange assets (see BIS (2004), Chapter V).

That is, few countries in Asia regard the exchange rate as a shock absorber. Several reasons can be advanced for this. It may reflect the "fear of floating" which comes from the currency mismatches discussed above. It may reflect, historically, less strongly developed domestic institutions for credible independent monetary policy, with a corresponding role for the

[10] Frankel (1999), Summers (2000).

exchange rate as nominal anchor. The very open nature of the smaller Asian economies and the degree of intra-industry trade and intense competition which is a feature of the Asian landscape also means that changes in exchange rates between trading partners are potentially disruptive. Considerations like this, among others, presumably lie behind the various initiatives in the region to buttress regional exchange rate parities, such as the swap arrangements in the Chiang Mai initiative, and the more ambitious ideas for a regional currency in the longer run (Henning (2002)).

The latter idea faces, in our view, formidable challenges. But whatever the longer-run prospects for currency unification, there is no free lunch with currency arrangements in the short term. Countries fixing to the US dollar in order to be stable against their neighbours have to accept that the effects of the ebbs and flows in international capital markets will show up in the state of domestic financial conditions, including asset markets, unless capital flows can be very substantially restricted. In principle, the central bank can provide a degree of insulation by changing the composition of its own balance sheet, but in practice it is unlikely to be complete. It is difficult, then, to prevent procyclical behaviour of international capital flows leading to a procyclical monetary policy stance, which transmits the disturbance into the domestic economy and asset markets. This can, in turn, lead to pressure to use prudential policies to achieve macro-policy objectives. The fact that the neighbouring countries face similar problems may not be much comfort. Hence, the question of what exchange rate arrangements will assist in delivering financial stability will surely be revisited at some stage.

4. Conclusion

Business cycles have been a feature of market economies throughout history, and there is no sign that this will not continue. Financial behaviour of a cyclical nature – the ebbs and flows of confidence, attitudes to risk and availability of credit – is an integral part of the cyclicality of economies and, likewise, will surely persist. The fact that the trend is for the financial sector to grow larger relative to the economy, as well as more innovative and more competitive, means that procyclical financial behaviour might be more important in future than in the past.

Given that, it is important that the management of risks by financial firms continues to improve, and that regulators and supervisors foster that improvement. At the same time, it will be important in the application of general principles that we take care not to amplify cyclical behaviour inadvertently. For bank supervisors, the trade-off between managing risks in the cross-section domain and the evolution of risks in the time domain is key. Much work has been done here towards calibrating the structure of the Basel II requirements, with implementation to begin from year-end 2006. Time will tell whether the balance is right; as in any strategy, execution will be critical.

Various ideas for supervisory responses to the financial cycle have been put forth, a number of which we have touched upon in this paper. They include altering the slope of the risk-capital curve, moving it up and down over the cycle, either in a rule-like or discretionary way, or doing things through the accounting or capital regulation systems which have the same effect: to make lenders put away some profits in good times so as to ameliorate the effects on their balance sheets, and hence capacity to provide credit, when times are not so good.

No doubt there will be further research in this area. As well as these more technical issues, another area that is worthy of more attention than it has received so far is the institutional

arrangements for supervisors. In comparison with monetary policy there has been relatively little research into what is the appropriate mandate for prudential supervisors, to what extent they should be independent of the political process, and what accountability mechanisms should be put in place.

In terms of mandate, an important issue is whether the main objective of supervisors should be to protect the interests of depositors (and perhaps other liability holders) at *individual* institutions or the stability of the financial system *as a whole*. In many cases, these objectives are likely to be complementary, but they need not be. Further, the nature of the objective is important in determining how the supervisory agency thinks about its job and how its structures itself. For example, a supervisor charged with systemic stability is more likely to devote resources to thinking about the interactions of the business cycle and the financial system than one charged solely with protecting the interests of depositors.

In countries where the supervisor is other than the central bank, it is usually the central bank that is assumed to have (or is explicitly given) the system stability responsibility. Yet such central banks often do not have available to them the discretionary capacity to adjust supervisory requirements. They have only monetary policy, which is typically already assigned to price stability, and "verbal operations" – that is, explicit discussion of risks and concerns – as their instruments. Hence if procyclical tendencies in the financial sector are to be amenable to any management by the official sector, some sort of coordination is almost certainly required. Several countries in Asia handle this by combining the functions in the one institution, and among these are countries where the occasional use of discretionary measures has apparently been successful. In others, some other device is required.[11] Questions about the independence of that process from the industry, and from day-to-day politics, would of course need to be considered as well.

As for the use of monetary policy to counter cyclical financial excesses, in our view it is hard to divorce monetary policy entirely from the process, given that monetary policy sets the price of credit. Hence at the very least monetary policy needs to be conducted with a view to avoiding making inherent cyclicality of financial behaviour worse, and some explicit role for trying to dampen the financial cycle might, in principle, exist on occasion. But based on research and experience to date, the likelihood of monetary policy's role being much more than a supportive one in the near term seems slight.

Finally, the international dimension of financial procyclicality is particularly important for the countries in Asia. Capital controls may be useful on occasion in responding to genuinely cyclical developments (as opposed to permanent structural changes), and the sequencing of liberalisation is clearly something which needs great care. Over the medium term, the development of a more complete set of markets, offering a more diverse set of funding, investment and risk management arrangements, and lessening the dominance of intermediated finance, may offer more promise to the countries of Asia than most other proposals. A key question will be whether the best way to proceed here is for individual countries to work first on the home front to foster market development and remove impediments, or whether it is more effective to attempt regional initiatives straight off. Another will be whether, at some stage, benefits afforded to the traded sector by highly

[11] In our own country, the Reserve Bank of Australia, the Australian Prudential Regulation Authority, the Australian Securities and Investments Commission and The Treasury meet, under the chairmanship of the Reserve Bank Governor, as the Council of Financial Regulators. This body is still evolving, but would be the sort of body that might facilitate the kind of coordination in mind here.

managed exchange rates come to be outweighed by the difficulties they can create in promoting financial stability. These are questions for the countries concerned. It will be fascinating to see the answers.

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