

Banks and public sector authorities: the international financial crisis and policy challenges in Asia-Pacific

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I. Introduction

The aim of this paper is to view the current financial crisis through the prism of conceptual models of the basic relationships between the commercial banking sector on the one hand and the public sector authorities, comprising the government, especially the ministry of finance, central bank and specialist regulatory/supervisory authorities, on the other. In Section II, I set out my interpretation of the Anglo-Saxon model of this relationship, as it stood in June 1997 before the crisis, and contrast this with a less clearly defined Asian model; the European (Rhineland) model being an uncomfortable mixture of the two.

In Section III, I describe how the original Anglo-Saxon model imploded under the pressure of events (2007–09), and how it is being gradually refashioned, visiting various dead-end turnings along the way. In some respects, this has brought the two models, the Anglo-Saxon and the Asian, closer together. I conclude, in Section IV, by asking whether the remaining differences may disappear, so that the world moves closer to a unified model.

II. The Anglo-Saxon model and its Asian counterpart

A. The macroeconomic structure

The main focus of monetary policy, in the Anglo-Saxon model, has been for the central bank to set (short-term) interest rates so as to hit an inflation target, whether implicit (USA) or explicit, over some future forecast horizon.² With some admixture of luck, such inflation targeting did lead to some fifteen years (1992–2007) of growth and stability, the “great moderation”, a golden age, at least in the Anglo-Saxon developed countries. There were some weaknesses, eg the notorious ‘imbalances’, low savings rates in the Anglo-Saxon countries, enhanced inequality etc, but so long as the good times continued, these issues were put on one side to be addressed later.

The implicit assumption was that, as long as the macroeconomy held stable, so too would its financial infrastructure. Or to put the same point another way, if the financial system autonomously misbehaved, this might be expected to show up quickly enough in forecasts for the output gap and inflation to allow successful remedial action through the standard official interest rate tool. The success of Greenspan’s Fed in doing just that on several occasions reinforced the credibility of this hypothesis.

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² The standard Taylor reaction function is faulty because it relates decisions to **current** inflation and output gap rather than to **forecast** values of these variables, but it explains policy quite well ex post, because current and past values of those variables are the main factors driving the forecasts of their future values.

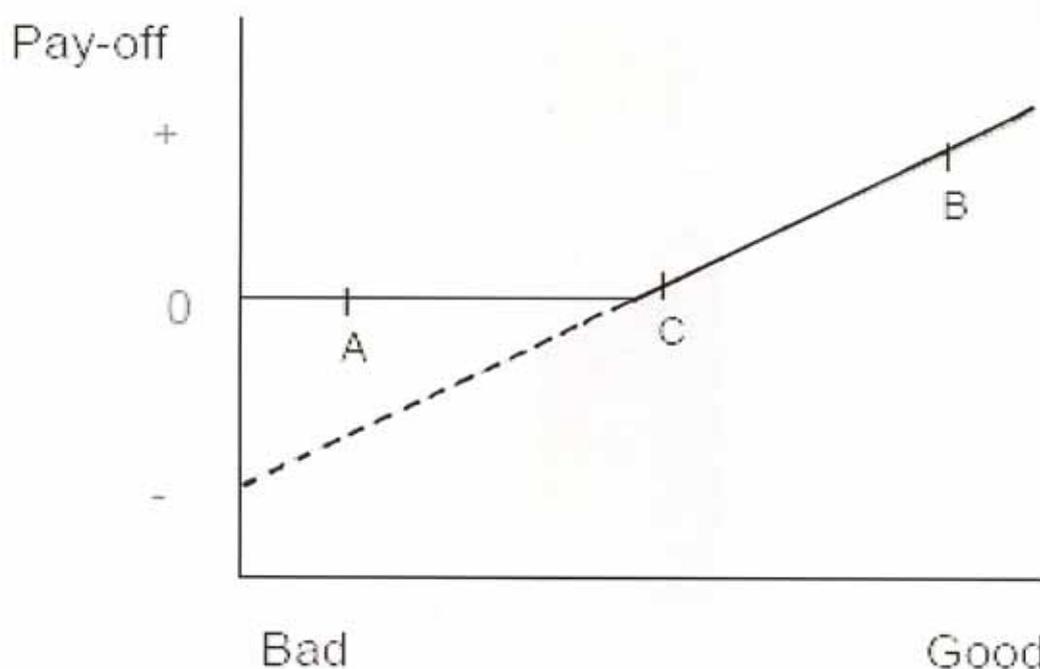
B. The incentive structure for bank executives

Within the Anglo-Saxon model, key decisions are taken by a firm's or a bank's top executives. While the board, key stake-holders, the government and public opinion all have some influence, at least on some occasions, and decisions are always taken within a context, nonetheless such decisions are generally taken independently by top management.

The main theme of governance theory and of practical remuneration policy had been, over previous decades, to aim to align managerial interests with those of shareholders. This was done, with a vengeance, by rewarding top managers, mainly via bonuses, for success in achieving steady earnings growth and rising share prices. Given the difficulty of distinguishing between prudent risk aversion and plain bad management during booms, and the relatively short expected shelf-life of a top manager, this would usually lead to short-termism.

Perhaps more importantly, the limited liability of shareholders meant that they and a fortiori their top managers would prefer a risky option (with the same expected mean outcome) to a safe policy. This is shown in Diagram 1, where a 50/50 chance of A or B will always be preferred to C. One answer to this had been to organise some (particularly risky) financial institutions into partnerships rather than limited liability companies (eg the large US investment houses), but this practice had eroded over time, partly because of the advantages companies enjoy in raising new capital and partly from the desire of existing partners to cash in their chips while they could.

Diagram 1



A more realistic constraint on such risk-seeking was meant to come from minimum capital requirements, and from tying executive bonuses and wealth to the value of the company. If the (required) capital position of a company (bank) is raised from C to B in Diagram 1, then the advantage of the risky option, with the same dispersion as before, over the safe option disappears. Moreover, the requirement that banks hold minimum capital provides a buffer to absorb losses, and protects the taxpayer and the public sector from having to pick up the pieces.

C. Regulation and supervision

Consequently the focus of regulation and supervision in the Anglo-Saxon system was to ensure the provision of a sufficient minimum capital buffer. Moreover, as long as the buffer was sufficient to ensure solvency, it was held that liquidity could always be attained by accessing the broad and efficient wholesale money markets. Given the availability of such funding liquidity, regulators/supervisors allowed banks throughout the Anglo-Saxon world to cut back their asset liquidity to a tiny fraction of what had been in place, say, in the 1960s.

The general belief, eg of Alan Greenspan, was that, with sufficient capital and personal wealth tied up in their own companies, top bank executives would never allow their own banks to come under serious risk of collapse.

Hence regulation could be light-touch and based on general principles rather than intrusive intervention. Indeed, the original *raison d'être* of the Paulson Report in March 2008 was to try to lighten capital market regulation in the United States to cope with competition from London; the abrupt mid-draft change of direction in that Report is rather obvious.

A serious problem with the precept of leaving risk management primarily to bank executives is that the probability of really severe tail events, such as a major systemic crisis, cannot be easily established, if at all. (Early warning exercises have a poor track-record.) Moreover, private sector bank executives would often regard it as being the public sector authorities' responsibility to cope with a crisis. So the risk management models used by banks, such as Value at Risk, tended to focus on sensible procedures for handling normal conditions, represented by normal distributions, rather than on extreme tail events.

But their models were, at least initially, technically much more sophisticated than those of the regulators/supervisors, so the latter tended to get cognitively captured, in that they used the models developed to assess and to control risk conditions in individual banks under 'normal' conditions, rather than to examine the effects of major shocks on the financial system as a whole. This syndrome reached its apex with the adoption of Basel II, which, combined with the simultaneous application of mark to market, fair value accounting, had the unintended effect of making the official regulatory system much more procyclical and unstable than previously.

D. The Asian model

Whereas the basic (USSR) communist model of finance was clearly distinct from the Anglo-Saxon model, it is harder to identify a clearly Asian model. Nevertheless I would suggest, though others will know better, that there are some distinct features of the Asian approach, by which I primarily mean the banking systems of China, India, Indonesia and Japan.

Amongst these are:

- (i) A much greater willingness to have a sizeable proportion of the domestic banking system under public sector ownership and/or control. Where there are private sector banks, these are more likely to be family-owned and/or related to industrial groupings than the limited liability companies with widely dispersed shareholders of the Anglo-Saxon model. Thus there are likely to be more external constraints on the authority and power of bank executives in the Asian model.
- (ii) Much greater direct influence from the public sector, especially from the ministry of finance/central bank in providing guidance on the amount of bank lending to the private (and public) sectors, and even guidance on the sectoral distribution of such lending, eg towards agriculture, construction, infrastructure etc.

Anglo-Saxon free marketeers claim that the greater direct intervention of the public sector with the banking sector leads to allocative inefficiency, a higher incidence of non-performing-loans

and, ultimately, more corruption. But it also greatly reduces the pressure for short-term profit maximisation.

By the same token, the wish of the authorities to encourage growth, together with the comparative power of large industrial borrowers vis-à-vis Asian banks, has helped to make banks rather than the (relatively) undeveloped capital markets the primary source of external finance.

Again, the closer and more continuous involvement of the public sector with the banks has also meant that the external control mechanisms of the Anglo-Saxon system, eg transparent accounting and external supervision, are less well developed in the Asian system.

In part because shareholders are less important in this system than the public sector and/or dominating family/industrial influences, the appointment mechanism and incentive structure of top managers differs from that of the Anglo-Saxon world. Top managers are less likely to be promoted from within each bank and more likely to be parachuted in from outside (perhaps from public sector bureaucracy or industry). Once again, short-term profit maximisation, though not unimportant, will often be less crucial for preferment than an aptitude for carrying out the wishes of those ultimately in charge. Rewards and incentives come less in the form of pecuniary rewards (eg bonuses) and more in the guise of ascendancy to a higher rung in the ruling hierarchy.

Under these conditions, regulation and supervision is simpler and more basic, partly because external control is exerted more directly. With less regulation, there is less incentive for regulatory arbitrage. For all these reasons, there has been less financial innovation in the Asian model, which now seems much closer to traditional banking than the Anglo-Saxon system with its penchant for derivatives, off-balance sheet shadow banking, securitisation etc.

III. The implosion of the Anglo-Saxon model

A. The macroeconomic context and the sad history of the crisis

The macroeconomic context continued to appear benign through 2006 and up to August 2007, as can be verified from forecasts issued up to that date. To be sure, official US interest rates in 2003–05 were held perhaps 1% or even 1.5% too low, or so it appears with the benefit of hindsight. This contributed to the housing boom both in the USA and abroad, and also fomented the search for yield and the expansion of financial leverage. But, pace John Taylor in “Getting Off Track” (2009), I find it hard to believe that a relatively minor error in setting interest rates could really destabilise the bulk of the Anglo-Saxon financial system, (and if it did, it would suggest that the system was remarkably precarious).

Instead my belief is that the crash proceeded from the scenario outlined by Hyman Minsky (1977 and 1982), whereby stability carries within itself the seeds of future instability. A combination of the ‘great moderation’ with low interest rates caused all financial institutions, especially banks, to expand leverage. This was particularly so in Europe, where there was no required leverage ratio, so that European banks leveraged themselves up, often at a ratio of 50:1, by buying highly rated tranches of mortgage-backed securities. It was also the case among investment houses in the United States, where leverage constraints had recently been relaxed. It was no accident that the epicentre of the crisis was to be found in these two sectors.

The adoption of the procyclical combination of Basel II and mark to market accounting served to hide the fragility of the overextended financial and banking positions both from the regulators and from the regulated. Northern Rock had a leverage ratio of more than 50:1, was highly reliant on wholesale funding and was making mortgage loans with no equity buffer

in the overheated UK housing market. Yet a couple of months before its effective demise in September 2007, the Financial Services Authority judged that its compliance with Basel II was so good that it could even increase its dividend! Similarly the profitability and balance sheet positions of banks in the USA and elsewhere appeared so comparatively strong in mid-2007, (partly because the shadow banking system was only dimly perceived by the regulators), that it appeared improbable then that the relatively minor losses in asset values following from the downturn in the US housing market and the demise of subprime could not be quite easily absorbed by these profitable and well capitalised banks.

The initial losses were indeed quite small. But the banks (and other parts of the financial system) were overleveraged and overextended. Meanwhile, both the high profits and excess capital buffers were, to a considerable extent, figments of inflated asset values and credit ratings. In reality the margins were much thinner. Banks and professional investors came fairly quickly to recognise this fact, with the corollary that the solvency of some parts of the shadow banking system and, by extension, of some banks was no longer absolutely assured. That led to the withdrawal of asset-backed commercial paper, to the closure of wholesale markets and to severe liquidity problems that interacted with solvency concerns.

All this led to massive deleveraging, several self-amplifying destructive value-reducing spirals (see the Geneva Report, Brunnermeier et al, 2009), until the whole process came to a cataclysmic halt in September 2008 with the bankruptcy of Lehman Brothers and the rescue of AIG. During the intervening period, central banks had been struggling to meet the steadily increasing demands for liquidity by lending to an ever-widening set of financial institutions on an ever-widening range of collateral assets at ever longer maturities.

But central banks cannot provide capital. As market prices and credit ratings went into reverse, more capital was required and, as the financial system weakened, the market began to demand ever higher capital buffers. Not surprisingly the capital market became closed, most of the time, to new equity issues by banks. Sovereign wealth funds that made investments during the few windows of opportunity generally came to regret them. During this period the authorities failed to prevent continuing dividend payments and massive compensation packages; indeed they had no legal powers to do so. Nor could banks cut back unilaterally on such out-payments without adverse signalling implications. Thus the banks and many associated financial intermediaries, such as monoline insurers, became massively under-capitalised.

Eventually the state had to step in, using taxpayer funds on a gargantuan scale. The alternative was complete financial collapse, as the Lehman bankruptcy presaged. Partly to limit the fiscal burden, the authorities also sought to encourage and perhaps even put pressure on the bigger and better capitalised banks to absorb their failing brethren, often by waiving anti-trust and cartel regulations, as in the case of Lloyds and Halifax/Bank of Scotland in the UK. The result has been the concentration of banking systems in the Anglo-Saxon countries into a small number of vast and widespread enterprises that are probably too large to control efficiently (Citigroup and Bank of America) and certainly too large to close.

B. Whither the Anglo-Saxon model?

The old basis of the relationship between the public sector authorities and the financial system in the Anglo-Saxon model, whereby the public sector sets the broader macro-economic and regulatory context and the private financial system decides autonomously on its own behaviour within that framework, has been upset, if not blown away entirely. It is not just that the public sector has come to own all the banks in Iceland and Ireland, and large swathes of the financial sector in the United States (Fannie Mae, AIG etc), in the UK (Lloyds, RBS), and in Europe (Fortis, Dexia, HRE, Landesbanken) but, probably more importantly, the public sector has now effectively guaranteed virtually all non-equity liabilities, including various kinds of subordinated debt, everywhere. The public sector has become the guarantor

not just of bank liquidity but, except for equity shareholders, effectively of the solvency of all systemic financial institutions. Moreover, in a crisis, a widening range of institutions, even quite small ones such as the Dunfermline Building Society in Scotland, may be regarded as systemic.

State ownership of private sector financial institutions has been assumed reluctantly in the Anglo-Saxon countries, as an unfortunate concomitant of the necessary recapitalisation. Steps have been taken, wherever possible, to design the recapitalisation (eg by the issue of preference shares rather than by diluting equity) so that business decisions can be left with private sector managers. Even when a controlling equity stake is taken, the role that the public sector adopted has generally, at least in public, been one of an arms-length shareholder with no direct say in decisions.

The model that the Anglo-Saxons are following is the one applied during the Scandinavian banking crisis of the early 1990s. In this case, the authorities took into public ownership the banks most in need of recapitalisation, injected new capital, tidied up the balance sheet, and were then able to sell the banks back to the private sector, at a profit, within a few years. But this rapid recovery was, in some large part, due to sharp depreciations of their currencies and a rapid rise in net exports, at a time when the rest of the world was (after 1992) growing quite fast (see Jonung, 2007). Such favourable macroeconomic conditions will not now be available to the developed world as a whole. Consequently any early sale of ownership stakes in such banks could probably only be done at a loss. To avoid having to absorb such a loss, governments may find themselves in a controlling position for much longer than they now hope.

Although governments have avoided the phrase ‘nationalisation’ largely for presentational and political reasons, there is a growing tension between the reality of control and the desire to avoid interference in what is seen as private sector decision-making. Much of the blame for the continuing recession is placed on the ‘credit crunch’. But if the state actually owns some banks, why can it not just order them to expand lending? The rapid recovery of China, apparently fuelled by massive state-ordered expansion of bank lending in the first half of 2009, has not gone unnoticed. So we have the curious spectacle of the UK’s Chancellor of the Exchequer, Alistair Darling, and his German counterpart threatening banks in general with (unspecified) sanctions if they do not increase lending to the private sector, and yet taking no apparent steps to enforce that policy where they have the power to do so (except in the case of Northern Rock, where a planned policy of running down the book was reversed by official decree).

Another political hot-spot of the recent crisis was the continuation of huge pay-outs to the executives of failing banks. Should a publicly owned bank really go on paying seven-figure salaries to top executives? The reported negotiation of a potential pay-out of more than £9 million to Stephen Hester, the new RBS chief executive, was unpopular.

If the public sector owns banks and other financial intermediaries, can or should it refrain from using its controlling position to achieve social or political objectives? For the time being, such questions are being sidelined on the grounds that such a controlling position is temporary, having been unwillingly and accidentally entered. If, however, the recovery is so anaemic that such stakes cannot be easily resold for many years, such issues may come to have greater prominence.

Banking decisions are already clearly influenced by the likelihood that public sector recapitalisation will bring with it constraints on private sector freedom of action in such delicate areas as remuneration and dividend policies, and perhaps on asset market decisions. If the banks can take action to reduce the need for public sector support, they will tend to do so. In some cases this may take the form of aggressive deleveraging, running down the balance sheet in order to preserve capital and hence avoid the need for public sector assistance. But such a response would only worsen the macroeconomic conjuncture.

Of course, banks claim that sluggish bank lending is due to a fall in demand but they are or have been tightening the terms on which borrowers can access funds.

But the questions about the implications for public/private roles in this field of public ownership of banks are, perhaps, minor compared with the questions posed by the state's role as the ultimate guarantor of the solvency of (non-equity) bank liabilities. In effect, the state has not only insured bank liquidity, via the central bank, but also the solvency of bank creditors. The implications for moral hazard are obvious.

This is not a comfortable outcome, to say the least. But what can be done about it? There are two natural responses. The first is to try to reset the structure so that we can return to the status quo ante, in which the state would no longer play a role as general guarantor. In this case, bankruptcy and the fear of private sector loss would provide some (enough?) discipline against excessive risk-taking. The second response is to accept that the financial system is central to any market economy, so that the state will always provide de facto ultimate insurance in a crisis. In this case, policy must be adjusted to reflect that reality.

There are several versions of the first proposal, most of which have a slightly quaint flavour of seeking to revert to an unspoilt Arcadian age before the wiles and innovations of investment bankers fouled the nest. One variant is the call to break up big banks, so they can be more easily shut. "If banks are too big to fail, they are too big," Mervyn King, Governor of the Bank of England, has said, and he has the support of Paul Volcker. Whereas it is true that some banks are now too big to fail on their own, even with zero contagion, the key systemic problem is contagion. Contagion depends on the interconnections and (perceived) similarities between the failing bank and its peers. Northern Rock was not large, but if Northern Rock had been allowed to fail, a run on Bradford & Bingley and Cheltenham & Gloucester would have occurred the day after, and on HBOS the day after that.³ If a large bank were to be broken up into segments that were just smaller-scale replicas of the original, then the contagion/systemic problem would remain almost as bad.⁴ As several economists have noted (see for example Acharya 2009, and Wagner, 2007/2008), contagion is a positive function of similarities between banks. The microprudential supervisor wants diversification within each individual bank; the macroprudential supervisor should want diversification between banks. A danger of microprudential regulation is that it forces all the regulated institutions into the same mould.

So, apart from the legal issues of whether the government should override private property contracts by forcing a break-up, it is doubtful whether having many smaller banks would help to ease contagion crises. Recall that it was the myriad of small banks that failed in the United States in 1929–33, whereas the more oligopolistic systems in some other countries, eg Canada and the UK, were more resistant. A more realistic approach is to assess how far the larger banks involve greater systemic risk, and then impose additional offsetting charges, (as discussed further below).

A second approach is to try to limit the range of institutions or functions to which the safety net applies. This theme goes under several headings, such as narrow banking or bring back Glass-Steagall. It is associated with the populist phrase that current banking combines 'a casino with a utility'. The latter idea has obtained surprising traction, even in the august

³ The sceptic will note that all these banks *did* eventually fail and have to be taken over, but crisis resolution is, in some large part, about playing for time, and seeking to avert panic. If such time is not well used, one may then just get a slower moving collapse. The difficulty in 2007–08 was that the basic concern was ultimately about solvency/capital adequacy, and this was not really addressed until after the Lehman failure.

⁴ But this approach might at least allow the first small bank to run into difficulties to go bankrupt, pour encourager les autres, even if runs on similar banks are then vigorously countered. When Barings was allowed to fail in 1995, the Bank of England prepared measures to support the other British merchant banks.

pages of the Financial Times. Perhaps the worst error of the crisis was to allow Lehman Bros to fail, but the firm had no retail deposits. In the populist jargon, it, together with AIG and Bear Stearns, were casinos rather than utilities. For reasons set out in my paper on “The Boundary Problem in Financial Regulation” (Appendix to the Geneva Report, 2009, and National Institute Economic Review, October 2008), regulatory constraints on a protected, narrow sector will drive business to the unregulated sector during normal times but provoke a flight back to safety during crises, thereby worsening the crisis.

Banking is about risk-taking, eg through the mismatching of maturities. Securitisation and derivatives are used to lessen and to hedge such risks. A narrow bank which has to hold all its assets (unhedged) to maturity can be very risky; is a 15-year fixed rate mortgage loan a suitable asset for a bank or a specialised building society (S&L) to hold? What exactly do the proponents of narrow banking suggest in the case of relationships with industry? Relationship banking, as practised in Asia and in continental Europe, exposes banks far more to the changing fortunes of their major clients than the more arms-length and capital market-integrated Anglo-Saxon model would do. It is arguable that the Asian/Rhineland model can only exist because the state is perceived as the ultimate guarantor. Presumably, without such a guarantee, the Anglo-Saxon model had to be safer, but it has now been shown not to be safe enough.

A third strand in this genre, which overlaps with the second response of adapting to the new reality, is to try to shift the burden of guaranteeing the banks back to the private sector. In this instance, the burden would be transferred to the debt holders, by forcibly requiring subordinated debt to be transformed into equity at the behest of the authorities in the event of a crisis. There is a question of the legality of this measure in the case of existing debt instruments, but some or all future debt issues could be required to include such a feature. But even with the present structure of debt, the debt holders of failing institutions, such as Fannie Mae, could have been penalised, as they were in the case of Lehman Bros. In the latter case, the effect was to transfer the losses to other debt holders, such as money market mutual funds, and thereby to widen the crisis. The US authorities, when they rescued a financial institution, generally did not impose losses on debt holders, mainly out of concerns for the reputation of their financial system, and for the cost of and access to funding in the future. When push came to shove, the US authorities were, therefore, not prepared to impose large losses on debt holders. Would they act differently in future if they did have the right to enforce the transformation of debt into equity? Perhaps but, if so, what would be the cost to the banks of being required to hold a second-tier tranche of transmutable debt?

There is a need to reconsider the role of (transmutable) debt as an element in banks' capital base, but, beyond that, most of the proposals for enabling the public sector to withdraw from its role as ultimate guarantor of the financial system would be ineffective, or damaging to efficiency, or both. So we need to turn to the second set of responses, which concern themselves with adapting to the new reality.

This new reality is that the public sector is the ultimate guarantor of both the liquidity and the solvency of all the systemic parts of the financial sector. In other words, the public insures the systemic components of finance. If we now view the state as providing such insurance, it gives guidance on what needs to be done to prevent the task becoming an excessive burden on the taxpayer, (who risks getting stuck with the cost of any pay-outs). Further, the state needs to ensure that systemic banks and other key financial institutions do not take advantage of their insured status to extract rents (moral hazard).

The answer must lie in, first, seeking to measure the extent to which the behaviour of the insured institutions places the state's insurance function at risk, and, second, in imposing sanctions, which could take various forms, on such behaviour. Both steps in this procedure are difficult. In the case of measurement, problems are made worse, inter alia, by externalities, whereby an act undertaken by an individual component will not be fully internalised but react, often in very different ways, on the system as a whole. This is due to

the intertemporal nature of finance, whereby actions undertaken now will have a probable, but uncertain and stochastic, effect in future, and to innovation, whereby the regulated will seek to mitigate any constraints placed on them by external regulation.

One example of an externality is the cutback in lending that an individual bank resorts to when its liquidity and capital adequacy come under pressure. But this simply transfers the pressure to the rest of the system. So, while it certainly remains essential to measure the liquidity and capital adequacy of each (systemic) individual institution, it will also be necessary to carefully monitor aggregate developments in financial conditions. Moreover, such developments have time-varying implications. A generalised rapid expansion (increased leverage) in domestic (bank) credit will initially enhance asset prices, profitability and economic activity. If pursued too far, however, so that asset bubbles develop, it will raise the probability of future bad debts, financial problems and future crashes. A problem is that such a future reversal remains stochastic, more likely but still uncertain. Accountants prefer to stick with what they can objectively measure, which does not include time and state varying probabilities of default. Hence attempts to measure financial fragility, such as in the Spanish dynamic pre-provisioning approach, frequently collide with the precepts of accountants, (and of the tax authorities who fear that the use of probabilistic measures can lead to the manipulation and deferment of taxes).

Unless regulation binds, it will not be effective. Effective regulation will prevent the regulated from carrying out their preferred policies. If so hindered, they will try to evade regulation by innovating their way around it. As Ed Kane has frequently emphasised, the regulatory process is dialectic, in which the regulated have more money, skills and incentive than the regulators. Those who have the greatest incentive to avoid the constraints of regulation, usually via innovation, are those who command the residual profits of the enterprise, especially since they can transfer all losses, via limited liability, to the public sector insurer and hence to the taxpayers. In this context a major error of Anglo-Saxon (banking) governance mechanisms was to seek to align the incentive structure, embedded in remuneration, of bank executives (and of key employees more generally) with that of shareholders (Bebchuk and Spamann 2009). Perhaps the more (bureaucratic) incentive structures of Asian banking were a strength rather than a weakness? I have, on occasion, advocated, with tongue only slightly in cheek, the allocation of a non-transferable unlimited-liability share to all senior bank executives that could be cancelled only on death or n ($n=3?$) years after leaving the bank. Some have retorted that this would unduly diminish risk-taking, the basis for the capitalist dynamic. Perhaps so, but then what remuneration structure would provide the optimal degree of risk-taking, given that alignment with limited liability shareholders leads to excessive risk-taking and unlimited liability to excessive risk aversion? Much more analytical research needs to be done here.

The question of sanctions is equally important and just as difficult. Indeed, one of the greatest weaknesses of the Basel Committee on Banking Supervision (BCBS) was that, as an advisory committee without any constitutional backing, it was constrained from considering or even advising on sanctions, since such legal matters lay in the province of each nation state. Thus the BCBS restricted itself to advising on principles and norms, without giving any advice on what to do if regulated entities either approached or fell below desired levels. Since the BCBS has taken the lead on (international) banking regulation, the proper structure of sanctions (to maintain and uphold good behaviour amongst the regulated) has been an under-researched field. This is particularly important since the choice of minimum satisfactory levels, eg of Tier 1 capital or of liquid assets, will always be somewhat arbitrary. What is necessary is to start putting remedial pressure on the regulated, as an institution falls below 'good' levels, in a graduated, but, steadily increasing, manner. About the only regulation to do so is the US FDIC Improvement Act of 1991, which was influenced by two economists, George Benston and George Kaufman.

There are several ways to apply sanctions. They could take the form of straight payments to the public sector authorities, premia for insurance, increasing in line with the measured risk.

Alternatively, they could take the shape of requirements for countercyclical or risk-weighted capital or additional liquidity. These measures would impose costs on banks (and may or may not provide income to the public sector) as they became riskier, raising the risks of the financial system as a whole. In short, risks increase with leverage and with the extent of maturity mismatching. The solution, therefore, is to raise taxes on banks in line with the extent of leverage and of maturity mismatch. The aim is to mitigate cycles in financial leverage and maturity mismatch.

Essentially the Anglo-Saxon model has been short of one necessary instrument, the ability to adjust regulatory pressure so as to restrain such financial cycles. Indeed, the direction of policy movement until recently, with the introduction of Basel II and mark to market accounting (both procyclical), was counterproductive and did nothing to restrain the recent severe financial cycle. The problem now is to design and to introduce a new instrument(s) that will provide such mitigation with the least cost to financial intermediation, and the best influence on appropriate innovation and risk-taking. This will not be easy, and is at an early stage of design. Some academic examples can be found in the Geneva Report (2009) and in Restoring Financial Stability (NYU, 2009, eds. Acharya and Richardson). Less has been written on this in official reports, since they have been more tentative (eg the white papers in the UK and of the US Secretary of the Treasury) and rarely couch the problem in this stark fashion.

IV. A synthesis of models?

As outlined above, the Anglo-Saxon model has now been shown to be flawed and will have to change in several significant respects. The public sector has clearly become the guarantor of all systemic financial institutions, providing both liquidity and solvency insurance. Fear of bankruptcy, especially within the context of limited liability (for shareholders and bank executives), will not restrain moral hazard. The public sector, as the provider of ultimate insurance, will now need to apply new instruments to prevent its insurance function being misused.

In the Asian model, the close links between the authorities and the key financial intermediaries have generally been more realistically appreciated. But the way in which such exposure to insurance payouts has been handled has been rather by direct external control measures than by broader market mechanisms. In the Anglo-Saxon model the aim is to induce the agent, in this case the bank executive, to follow desirable (ideally welfare-maximising) lines of behaviour by setting general market mechanisms, such as regulations, market prices, taxes and subsidies, and then letting the agent decide on his own (maximising utility) within this general framework.

That framework was found to be insufficient and Anglo-Saxons may, at least for a time, be less arrogant about the superiority of their approach. But they may succeed in patching up their framework by adopting generalised regulatory measures that apply countercyclical pressures to financial cycles in leverage and maturity mismatching. If they succeed in this approach, should Asian countries adopt similar mechanisms? And if they do, will this result in a closer match, a greater synthesis, between the two models?

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