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FIXING GLOBAL FINANCE: UNFINISHED BUSINESS

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**S. RAJARATNAM SCHOOL OF INTERNATIONAL STUDIES
SINGAPORE**

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Abstract

The 2008 financial crisis was hugely damaging. The focus of reform has been on increasing banks' required capital. Together with the other measures taken, this makes a repetition of 2008 less likely. However, the crisis also taught us that financial markets do not work as well as we thought. Financial innovation has made the markets more volatile, short-term focused and more pro-cyclical. Not much has been done to address this issue. This paper suggests that the government-guaranteed banking sector should be separated much more clearly from the rest of the financial sector, which should be more explicitly identified as a risky sector. This separation would change the way the financial sector is managed (with conservative management returning to the banking sector). Such beneficial changes would reduce the size of the financial sector, which currently attracts too many of our best brains.

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Introduction

We learned a huge amount from the 2008 crisis about financial markets, how they can go wrong and what damage is caused when they do. Quite a bit has been done to make them safer and work better¹, but this is unfinished business. Some fixes were constrained by politics, vested interests and failure to agree on what should be done. Some problems have no clear solution. There are trade-offs between efficiency and innovation-enhancing competition on the one hand, and stability/safety on the other. Some reforms are in the mind-set and require a change in the way we think about issues. Beyond all this is a bigger unresolved question: how much do we benefit from the financial sector? Are we putting too many resources (especially our smartest brains) into finance, for too little national return?

I will not succeed in answering all these questions now, but I hope I'll get some distance in setting out the issues and exploring some options of what more might be done.

For some commentators, identifying a single key cause has been their main message. Martin Wolf initially put huge emphasis on global imbalances,² which was shorthand for China's external surplus. Others have identified the specifics of the U.S. housing mortgage market (subsidies, mortgage-backed securities, political pressure to help those who really should not be borrowing for home ownership). Others say "too much leverage" but this just pushes the question further back: why did this happen?

These mono-causal narratives are unsatisfactory in explaining the history and are a misleading guide for the reform agenda. A whole lot of things went wrong, interacting with each other adversely. While we cannot fix all of them, we need to set out all the elements. As well, we should include some factors that did not go wrong in 2008, but which are potential vulnerabilities nonetheless.

First, a preliminary historical reminder: financial crises are not unique or rare events. Just because this one is behind us now, we should not relax. Memory is the best antidote, but memories fade. Kindleberger, Galbraith and Minsky warned us of all this long beforehand. Perhaps so long beforehand, that we forgot. Anyone re-reading Galbraith's "Great Crash: 1929"³ written in the mid-1950s would be struck by the similarities with the years leading up to 2008. The advanced world watched crises happening elsewhere (most notably, in Asia in 1997) with complacency. It cannot happen to us, they thought. It could and did.

¹ This is well summarised by Mark Carney, Chair of the Financial Stability Board, in "The Future of Financial Reform" <http://www.mas.gov.sg/news-and-publications/speeches-and-monetary-policy-statements/speeches/2014/mark-carney-mas-lecture-2014.aspx>

² Although he has shifted quite a distance in his recent book. Martin Wolf (2014) 'The Shifts and the Shocks What We've Learned—and Have Still to Learn—From the Financial Crisis' Penguin Press.

³ J.K. Galbraith 'The Great Crash, 1929' Houghton Mifflin Harcourt, 1997

To try to put some structure into the alternative multi-causal approach to explaining crises, three groupings are offered here:

- Macro-economic factors;
- The evolution of financial markets over the past few decades, which made them more pro-cyclical and greatly exacerbated their dynamic instability; and
- Inadequate or ineffectual regulatory and institutional framework.

Macro-economic Factors

Just three points here. First, to note that the linkages between the macro-economy and financial crises are often overlooked once the headline-grabbing dramatic events of the crisis unfold. It seems true, however, to say that *every financial crisis* has preceding macro problems or policy errors. For the U.S. in 2008, the error was the long period of easy monetary policy following the “tech-wreck” at the beginning of the century, perhaps exacerbated by the international imbalances.⁴ This was not enough in itself to explain the crisis, nor could higher policy interest rates have constrained the housing boom. But it was a lax environment. When macro-policies are right, the financial sector is more likely to behave itself.⁵

Second, this crisis demonstrates that mistaken macro policies *after the crisis* (particularly the budget austerity after 2010) can also make the recession associated with the financial crisis *much* worse than it need have been. Poor macro-policies are part of the cause and good macro policies are part of the solution, preventing a minor cyclical blip from becoming a financial crisis. This lesson was clear enough in the period after 2008, but the 1930s provide a far more powerful example of how incompetent (or mistaken) macro-policies can exacerbate a financial crisis.

The misguided post-2008-crisis austerity policies are, however, a story for another day. The third macro point that I want to expand on is that the 2008 crisis was hugely costly. Recessions are often described as ‘V’-shaped, with the implication that the recovery gets GDP back to the old growth trend. Whether this is generally true or not, it is very clear that this post-crisis recovery is not getting back to the old trend. It is a reverse ‘J’ rather than a ‘V’. Neither the U.S. nor Europe nor the U.K. will get back to their pre-crisis trend. The new trend is both lower and flatter.⁶ Not all of this is a result of the 2008

⁴ China is usually cited as the main offender here, but as far as the European periphery crisis goes, the clear offender is Germany.

⁵ A clearer example of the central role of macro-policy mistakes is seen in the crises in the European peripheral countries, beginning in 2010. With the introduction of the euro, interest rates in these peripheral countries converged close to German rates. These rates were inappropriately low for the circumstances of these countries, and Germany’s surplus provided the funding for inappropriately large current account and budget deficits. This second crisis set back the recovery from 2008 and has given Europe an additional set of problems.

⁶ One compelling study of the issue is [provided by Johns Hopkins economist Larry Ball](http://www.econ2.jhu.edu/People/Ball/long%20term%20damage.pdf). <http://www.econ2.jhu.edu/People/Ball/long%20term%20damage.pdf> Ball took the potential growth rate estimates made by the IMF and OECD in 2007 showing how each of the OECD economies could grow if running at full productive capacity. He then compared these 2007 potential growth trends with the similar potential growth trends shown in the latest OECD and IMF forecasts. The latest estimate is well below the 2007 estimate. He attributes the difference to the damaging effect of the 2008 global financial crisis. Here’s how he summarises his results:

crisis: the flatter trend reflects structural factors not necessarily connected with the crisis. But living standards in the crisis-affected countries are *permanently* lower than they would have been if the crisis had been avoided. We need to bear this in mind when we read estimates of the cost of the crisis—the costs are on-going and cumulative, not some historical number from the past, often confined to the cost of balance sheet bail-outs. We also need to keep this in mind when the finance industry tells us that they cannot bear the cost of the measures to prevent future crises: crises are very expensive.

The Financial Markets

There have always been forces of dynamic instability in asset markets. But the innovation, incentives and the “market-is-right” mind-set made these forces much worse during the past three decades. Let me preface this section by asserting that I am a firm believer in markets, as any sensible economist is. But I think we would have been better served if there had been more recognition of the possibility of market malfunction and a higher degree of scepticism about what it would achieve when left to its own devices.

When the process of financial de-regulation began three or four decades ago, it was widely recognised that the growth of the financial sector would mainly be in the capital markets rather than in the traditional prudentially supervised banking/intermediation sector. At that time, it was envisaged that there would be a critical distinction between these two sectors: capital markets and the non-bank institutions would be the “*caveat emptor*” (or, more specifically, “lender beware!”) part of the market. There would be full disclosure and standard regulations covering fraud and so on would apply; but there would not be detailed supervision and none of the capital-requirements and balance-sheet constraints of the banking sector. There would not be much in the way of loss-absorbing capacity when things went wrong because there were no intermediaries’ balance sheets involved. Investors were largely on their own; when there were losses, they would take the hit. If investors made a decision to get out of their investment, it would be at the current market value—which during a financial crisis would incorporate all the pessimism and enhanced risk-perception of the time. Bad luck, but you were supposed to be financially strong enough to absorb the losses. If you wanted the liquidity of being able to sell out at short notice, you would pay the penalty in terms of a low price. There would be no consumer protection. Widows and orphans should put their meagre life-savings in the banking sector or in government bonds, not in the private capital markets. That is the way we thought about it.

We did not worry too much about damaging inter-connectedness in the non-banking sector. If an insurance company went broke, for example, there would be no run akin to a bank depositors’ run: you did not intentionally burn down your house when you heard the rumour of an insurance failure,

I find that the loss in potential output from the Great Recession varies greatly across countries, but is large in most cases. Based on current forecasts for 2015, the loss ranges from almost nothing in Switzerland and Australia to over 30% of potential output in Greece, Hungary, and Ireland. The average loss for the 23 countries, weighted by the sizes of their economies, is 8.4%.

just so that you could go to make your claim ahead of other insured parties. If your company failed you might lose your current premium, but the loss would be modest and you could insure with another company. Thus we saw the dynamic in the non-banking sector as being different and less worrisome for systemic stability.

Similarly, we did not see any serious problems of inter-connectedness between banks and non-banks. We did not envisage that AIG would be insuring the safety of bank balance-sheets through options contracts.

But how has it turned out? This clear distinction between the safe banking sector and the potentially unsafe non-banking sector (most of which we have now come to know as the shadow banking system) has not been made. In fact, there were determined efforts on both sides of the divide between banks and shadow banking to blur the boundary. The customers (roughly speaking, the investors) have not recognised, let alone accepted, the "*caveat emptor*" distinction. Disclosure was not enough to protect consumers. Finance is simply too complex and too full of uncertainty.

Of course, there were financial sector professionals to help the customers. By and large, this was like relying on the used-car salesman to tell us what was wrong with the vehicle being sold. It was an unrealistic expectation. The failure of disclosure often turned out to be a demonstration of principal/agent problems: the parties to the transaction had different motives and incentives. Often, as well, these different objectives were closely intertwined with asymmetric information; one party to the deal knew much more about the details (especially the risks) than the other party. Worse still, this party had a strong self-interest in using this superior knowledge. It was (and is) simply unrealistic to think that ordinary citizens could operate successfully within the pure *caveat-emptor* world that was envisaged.

This self-interested confounding of protected and unprotected sectors was not the only force at work. The *caveat emptor* idea was also undermined because politicians, in the end, often had to respond to the pressures for consumer protection when a non-bank financial institution failed, even when there was no prior guarantee and no issues of systemic contagion.

One of the selling-points of de-regulation was that it would encourage financial innovation. Of course it did and there were many benefits of innovation. Paul Volcker was exaggerating (perhaps intentionally, to make a point) when he said that the only useful innovation in finance was the ATM. Certainly, even confining ourselves just to the payments system, we can see many valuable improvements. But there were also unhelpful characteristics in many of these innovations.

Here are two examples. First, by their nature the capital markets separate the ultimate lender (the person whose savings were at risk) from the borrower in a way that does not happen in intermediated finance. Multiple layering of transactions ("slicing and dicing" and long funding chains) further separated the initial saver from the ultimate borrower. This set the stage for obscurity (often intentional, as it enhanced the informational advantage of one party in the transaction), principal/agent

problems and the feeling that no one was responsible. An alphabet soup of innovative products was available to confuse the ordinary investor. When one particular product came to be generally understood, it was in the interest of the financial sector to produce a more complex product which could be marketed with higher profit margins. In theory, it is the job of financial markets to provide the information (either publicly or privately) which would enable customers to make good decisions. But if a financial advisor had a good money-making idea about the markets (i.e. something which has not already been incorporated into the market price), they are not going to give it away to anyone else.

In theory, the credit-rating agencies (CRAs) had the task of providing investors with the information they needed, but the CRAs were hopelessly compromised by their self-serving business model: AAA-ratings were available on demand, tailor-made to promote particular securitised product.⁷ There was no discipline in the rating process because the CRAs were “only giving an opinion” on which they would not be held responsible. To make matters worse, when the CRAs changed their ratings, this was a coordination signal to set off herding in the market.⁸

Second, most of these innovations involved substantially more credit and/or more leverage via derivatives or forward contracts. This cannot be analysed simply in terms of credit/GDP ratios or expansion of the size of the financial sector in GDP. Leaving aside the difficulty of measuring total leverage in a world laden with derivatives, even the narrow concept of credit was hard to evaluate. Even before 2008, we understood how hard it was to know just what the right amount of credit should be. In the early years of de-regulation, we expected credit to grow faster than GDP—after all, one of the principal motivations of de-regulation was to let people use the financial sector to build up more complex balance sheets with both assets and liabilities. Thus it was hard to say just exactly when this leverage became excessive. But when these innovations combined with the inherent pro-cyclicality of financial markets, we could be sure we were headed for trouble unless there was some external restraint.

These innovations produced profound structural changes which made the financial sector far more vulnerable. The most spectacular change was of course the growth of the shadow banking sector, largely a product of regulatory arbitrage. So much has been said about this sector that I can pass over it quickly at this stage, but without discounting its importance (we will return to it when we talk about reforms).

Instead, I want to remind you just how much the traditional core institutions—the banks—changed. The action shifted from simple deposit/lending on their balance sheets (where borrowers were subject to the gimlet-eyed scrutiny of bank management who were intimately interested in risk because the

⁷ Wolf (2014) notes that there were only 38 AAA countries but 5000 AAA securitisations.

⁸ The CRAs have demonstrated a Teflon-coated character that is hard to comprehend or justify, and which leaves a gap in the reform agenda. It seems amazing that, in the U.S. at least, they are able to evade all responsibility for their mis-ratings by claiming that these were simple opinions, not subject to any recourse and protected by the constitutional right to express opinions (without, apparently, any penalty for ratings-for-sale biases). This has left the non-bank sector with inadequate information. How can the securitisation market revive safely with so little unbiased information available to investors? This is a gap which the authorities should be endeavouring to fill, but so far there has been no action.

asset remained on the bank's balance sheet). In the new world it became easy for banks to originate mortgages without bothering too much about assessing risk, and then pass these loans on to unsuspecting funders via a securitisation vehicle whose promoters were interested in little more than the commission fees.⁹

To add to the fragility, the banks began to fund their balance-sheets not just from deposits (which since the advent of deposit insurance have been a stable source of funds) but from wholesale money markets, uninsured and therefore very flighty. Leverage was up and at the same time all the providers of funds thought they had high liquidity.

At the same time that the banks were shifting traditional assets off their balance-sheets, they were moving into new territory. Proprietary trading became a main profit centre and the assets on their balance-sheets supported their securitisation activities and trading. Their new territory extended even into commodity trading, with the big financial institutions holding stockpiles and speculating in the commodities market.

This changed the way banks were managed. Commercial banking used to be a staid occupation: if you said you were a banker at a barbeque, people would look over your shoulder searching for more interesting company. But as the excitement of the innovative parts of the financial sector became clear—not to mention their bonuses —banks got themselves deeply involved in the “caveat emptor” side of finance. In the U.S., the Glass-Steagall distinction had in practice been eroded long before it was formally rescinded in 1997.

As traditional commercial banking melded with investment banking, proprietary trading, insurance and funds management, the top jobs and the management style shifted to the go-getting risk-lovers, with bank boards and shareholders both cheering on this risk-taking style. Anyone who had even glanced at a finance textbook knew that the more risk you took, the more profit you made. This was interpreted as a profit-enhancing formula rather than as a salutary warning against taking risk. The general point here is that the style of management fundamentally changed, even within the banks. The sector became both bigger and riskier.

It also became so complex that it's hard to believe that an effective governance model could be developed, where the CEO had any operational idea of what the organisation was doing. You get the impression that in many cases the top management were just hanging on tight and hoping that the ride would last until they had been able to cash in their chips.

It needs to be noted just how hard it was to resist this trend. There was no alternative low-risk business plan available to management. Strong competitive pressure advocated by return-hungry boards and shareholders meant caution was not a managerial option. As Citi's Chuck Prince famously

⁹ In the US, Fannie and Freddie stood ready to take up the funding, pushed by political pressures to lend to those with little capacity to repay.

said, “While the music is playing you have to get up and dance.” Any conservative financier, whether a banker or a portfolio manager, was swept aside in the universal euphoria. The incentives of substantial bonuses narrowed the focus onto the short-term. Who could blame the management for simply responding to this environment?

“Wise Heads” outside bank management could have spoken out against the excessive credit growth. But how hard this was! Greenspan tried with his “irrational exuberance” comment in 1996 (a decade too early!), and soon gave up, shifting to the “clean up afterwards” strategy. Cassandras at the BIS (notably Bill White) came under severe pressure from the vested interests of Wall Street.

While we note how hard it was to stand against this trend, we should also mention that the normal instruments of monetary policy would have been of limited use. Interest rates were, in fact, low in many of the crisis countries, but even if they had been raised to lean against the asset price increases, any realistic setting would not have been enough to offset the expected asset-price increases. Any setting sufficient to dampen the asset-price rises would have been far too high for the general economy. Thus the lesson here is that we cannot rely on the normal instrument of monetary policy to stand against an asset boom.

Perhaps the thing that stands out from this period is the powerful pro-cyclicality of the financial sector and the excessive leverage which accompanied it. This was not new: the same thing had occurred in the 1920s. The Minsky sequence was at work, with the Minsky Moment arriving in 2007. The good times of the Great Moderation lulled everyone into complacency. In good times, collateral is strong, markets are deep and asset-holders are sure that they have ready liquidity. This is the long-established characteristic dynamic of the financial sector. But innovations and the related structural change made all this far worse.

Greenspan was not the only one to express belated surprise that the financial sector showed so little self-discipline in providing credit, giving funds to those who had little prospect of paying back. Why did so many misunderstand the way markets work, including the most experienced such as Greenspan? The answer being they were besotted by the market efficiency myth.

The idea that free markets are “efficient” has been the key mantra of the light-touch regulation argument. If markets are efficient, outside interference, including regulation can only make them less efficient. Financial-market participants liked the idea of “efficient markets” because it was the rationale for letting them do whatever they wanted to do. Academics liked the Efficient Markets Hypothesis (EMH) because it was amenable to analysis, bringing order to the intractable complexity of the real world.

The academic idea of EMH is very close to a tautology. Of course the current price incorporates all the currently-known facts and opinions. But in what sense is it “efficient” when so much of this input into the price discovery process is itself deficient? It is bound to be faulty when the issues that determine the equilibrium value (in the economists’ sense) are largely unknown and subject to biases

and uncertainty. Above all, many subjective and changeable opinions (“risk-on” arbitrarily replaced by “risk-off”; herding behaviour) are going into the market calculus. These inputs are largely irrelevant to the longer-term structural price of the asset. What, in this chaotic world, is the meaning of “efficient” in the EMH? It should have been called the “As Good as We Can Do” hypothesis.

Let’s take one example where the reality differs substantially from the textbook and doctrinal case. A key attribute should be effective price discovery. We know how the textbook says price discovery occurs. But the real world rarely fits the textbook downward-sloping demand curve and upward sloping supply curve. In asset markets, when price starts to go up, this encourages the lemmings to pile in (herding); perhaps assuming that someone else knows more than they do. Thus demand curves slope up rather than down, at least for some of the time. If supply curves are steep or even vertical in the short-run (as asset markets tend to be), prices can move a long way in an attempt to establish equilibrium. The result is that asset prices, including financial assets, are not well anchored. They may rise way beyond any sensible notion of equilibrium (based on, say, P/E ratios, discounted cash flow, or Tobin ‘q’ replacement-cost ideas) until some trivial event causes the lemmings to turn and rush the other way.

The efficient markets view also introduced a serious distortion in what the market players thought was important. The EMH gave pride-of-place to new information (news) as the main driver of price movements. This caused markets to put undue focus on the ephemeral daily data and the daily price variance, rather than the underlying value of the asset.

Portfolio management illustrates the true extent of dynamic instability in financial markets. Many managers are constrained by over-riding requirements: e.g. to invest only in investment-grade paper. When the credit-rating agencies (CRAs) lowered the rating, the portfolio manager was forced to sell even when the asset was thought to be sound. Or if investors withdrew their money from an investment fund as the market went down, the manager might have to sell the best stocks into a thin market, driving price below any sensible equilibrium. The common point in these malfunctions is that the buy/sell actions were not based on a Walrasian tatonnement (groping for the equilibrium price), but by other motivations forced on the portfolio manager.

Just about all the market participants were using the same (flawed) model, reacting to the same very imperfect information. No wonder herding and momentum are so prevalent.

Distorted price discovery was exacerbated by misunderstanding—perhaps intentional—about the nature of risk. Of course risk is central to finance. Long ago, an important distinction was made between risk—where it was possible to have a pretty accurate idea of the probabilities involved—and uncertainty – where you could not know much about the probabilities. Over the years, we have become better at formularising the probabilities, including the sophisticated calculations of option pricing which was one of the keys to risk management. Unfortunately much of the relevant issues were uncertainty rather than risk. The events which mattered for understanding the possibility of a crisis were right down in one of the long tails of the probability distribution about which there were no

relevant data. The last relevant data were from the 1930s in a totally different world or at best from the 1987 stock-market fall, but no one used data this old. No-one was interested in this sort of “Black Swan” analysis because it was not amenable to the mathematical techniques that had taken over.¹⁰ There was a hint of warning in 1998 with the Long-Term Capital Management crisis, but we sneaked through, ignoring the inconvenient fact that the management team at the centre of this close-call (bailed out by official pressure on other market participants) was the very same Nobel prize-winners who had invented the risk-management techniques that purported to make portfolio management safe.

The logical extension of this approach to portfolio management is the dominance of high-frequency trading in the stock market. There are plenty of arguments about the logic of algorithmic trading, but Michel Lewis’ “Flash Boys”¹¹ makes a convincing case that this is largely a sophisticated version of front-running. The substantial real resources that go into this sector (human and IT) are an example of Adair Turner’s “socially useless” financial activity.

Of course the financial sector itself had strong incentives to advocate a hands-off light-touch approach to supervision. Who does not want to be allowed to do whatever they want to do without the hindrance of active regulation? By and large, they got what they wanted. The market in 2007 was pretty free of regulatory distortion, in part at least, thanks to pressure of market participants. This is the market they wanted. They liked the volatility. They liked the asymmetric information. We would not have ended up with the sort of soft-touch regulation, the repeal of Glass-Steagall and the rapid expansion of the shadow banking sector in terms of both size and complexity without this strong doctrine of efficient markets.

After the bank collapses of the 1930s, firm regulatory constraints were placed on financial markets. These survived for half a century before they were eroded by the growing belief in the EMH. The long-existing pro-cyclicality of markets and their dynamic instability were greatly amplified in the process.

The Regulators

If innovation and optimism bordering on euphoria were the driving forces of financial expansion, and institutional change was making it less likely that the free market could sort out the issues, what were *the regulators* doing to rein this in? Weren’t many of them central banks, supposedly skilled at taking away the punch bowl just when the party was getting to be fun?

The regulators in the U.S., Europe and the U.K. were left behind in the rush to innovate and to shift transactions out of the conventional intermediation framework into the more exciting capital markets framework. When it came to innovation, the regulators were bloodhounds chasing greyhounds. All the

¹⁰ See Nassim Taleb ‘The Black Swan: the Impact of the Highly Improbable’

¹¹ Michael Lewis (2014) ‘Flash Boys: A Wall Street Revolt’ W. W. Norton & Company.

innovations mentioned above took place in full view of the prudential regulators who took no effective action to restrain it even when it was occurring in the banking sector. The shift from bank intermediation to capital markets was an integral part of the de-regulation: it could not be opposed even if the authorities had wanted to. Here was the quandary for the regulators —the only way to counter the shift of the action to the unregulated shadow banking sector was to reduce the regulatory burden on the banks.

The regulators face a more subtle problem. To be effective, they have to take firm action against problems which have not yet occurred. The easiest part of their job is to put in place the various capital requirements and regulations that constrain actions in the financial sector. But events will unroll—AIG's derivatives, the CRAs' lowering of their credit standards, the pushing of the borders of innovation —that are not specifically foreseen in the regulations, and require the authorities to have the courage to call a halt to actions which have not yet caused a crisis. In America there was not only the presumption that the market was efficient but also a historically entrenched viewpoint that there should be as little government interference by as possible. Much the same mind-set prevailed in the U.K. although the mix of motives may have been different, with the power of The City and the huge importance of the financial sector to the economy.¹²

In the U.S., an obscure and ill-equipped regulator watched as AIG stretched its AAA credit-rating to breaking point. In the U.K., the regulators watched as Northern Rock exhibited the classic disaster scenario—expanding its loan book much faster than its competitors, which is invariably done by taking on the risks that no other bank wants. The lesson I take here is that inadequate prudential regulators were a key element in the story. Where regulators were competent – here in Singapore, in Australia, in Canada – there were few problems. This should boost our confidence that simple regulatory competence would go a long way to avoiding a repeat of 2008, provided it has strong political backing.

Why were the regulators in the crisis countries so ineffectual? The answer to this is clearer in the U.S. than elsewhere, but some of the same factors may have general application. First, the long US tradition is to resist central authority: in this particular case, this manifests itself in the creation of a disjointed regulatory structure. Second, there is the influence of Wall Street, exercised through the power of political donations. Third was the powerful belief in the intellectual beauty of free self-regulating markets. Alan Greenspan was genuinely surprised that free enterprise banks would not be constrained by an overwhelming motivation to keep their own balance-sheets secure.

Thus the issue in considering whether the regulatory aspects of the financial system have now been made safe is to ask if the regulators in countries such as the U.S., the U.K. and in Europe now have the competence, the political backing and the required mind-set to act as tough no-nonsense referees in markets which are clearly not self-regulating, or at least not in a successful way.

¹² J.K Galbraith described it this way in 'The Great Crash 1929': 'The government preventatives and controls are ready. In the hands of a determined government their efficacy cannot be doubted. There are, however, a hundred reasons why a government will determine not to use them.

The Reform Process

I have spent a lot of time setting out the problems. These issues will, of course, be the guide in suggesting solutions. But there is a deeper point that I hope to make here by contrasting the wide range of things that went wrong with the narrow range of reform measures undertaken so far. “No crisis should be wasted” was a sentiment expressed early on, and I will argue that the extent of the reform since 2008 was not commensurate with the seriousness of the crisis. This crisis has been largely wasted.

The *immediate action* was a *macro-response*: to get interest rates down to support borrowers (including the troubled financial institutions).¹³ There was also coordinated fiscal expansion in 2009 but terminated too soon. In short, the macro policy-makers initially heeded the mistakes of the 1930s and it can be argued that if they had continued the fiscal expansion, the recovery would have been much faster.¹⁴ With a faster recovery, there was a good prospect that the government debt build-up could have been wound back more quickly than has occurred. The global recovery was seriously set-back by the European periphery crisis of 2010.¹⁵

That said, while better macro-policies would have reduced the duration of the recession, by 2007 a sharp downturn was unavoidable.

Turning now to policy actions at the micro-level, the repair job began, understandably enough, by supporting the troubled balance-sheets with more capital, guarantees and other loss-absorbing support. Thus it was an easy segue from rescue to reform: to the longer-term response of boosting the Basel capital requirements (and attempting to tighten up on the many tricks which the banks had played to reduce their effective capital requirements).

This immediately ran into push-back from the banking sector. The details of this would bore you. It is enough to say that the pressure of powerful bankers will ensure that there will not be enough capital to cope, single-handed, with a severe crisis like 2008. Keep in mind that the banks, with all their vulnerabilities of volatile asset-holdings and slippery deposit funding, are by far the most leveraged industry in the economy. The overall leverage requirement that will be imposed by the new Basel rules is a mere 3 per cent.¹⁶ Asset valuation falls of just 3 per cent would exhaust the equity capital of a bank which was operating with this level of leverage. The amount of capital required to keep Citi

¹³ For completeness I should mention the major policy innovation of Quantitative Easing (QE) although for my taste the real action in monetary policy was the dramatic fall in interest rates.

¹⁴ For some support for this view, see IMF IEO “IMF’s response to the global and economic crisis” November 2014. <http://www.ieo-imf.org/ieo/pages/EvaluationImages227.aspx>

¹⁵ This is, in my view, a clear case of policy failure: the EU should have orchestrated a substantial debt rescheduling for the peripheral countries to address the unsustainable debt levels (a problem which still has not been resolved). The ECB actually raised interest rates in 2011 and delayed the commitment to do ‘whatever it takes’ to support the euro.

¹⁶ Although many national regulators will impose a higher ratio.

intact in 2008 would have been very much larger. Keep in mind, also, that the most sophisticated regulatory approach to capital—cyclically variable capital—was attempted in Spain before the crisis. It helped but was, demonstrably, not enough to cope with the crisis.

Thus more capital is a good idea, and let us get as much as the banks' push-back will allow. But let us also accept that this will not be enough to guarantee bank safety.

Thus the next step is to see who (other than the taxpayers) might provide more capital when the crisis arrives. Bailing in the unguaranteed non-deposit liabilities would seem to be an obvious target. If the banks had been allowed to go broke (which is normal for other corporates), banks' bond-holders would have taken the hit. So why shouldn't they provide loss-absorption capacity if the banks are to remain open, thanks to the taxpayers? Thus one of the great puzzles of 2008 is why bond-holders, generally speaking, were not asked to take a loss but were instead treated in much the same way as depositors, protected by a taxpayer guarantee. It began with Ireland, whose near-incomprehensible bank mess was saved by a government guarantee of all liabilities, mainly motivated by the Europeans who provided the bail out.¹⁷

Once this precedent was set, it was hard for other countries to avoid following suite. Some unwinding was done with Cyprus, but fumbling caused further confusion. Thus we now seem to be endorsing the idea that bond holders are safe, by introducing a new kind of bond *which explicitly is not safe*, and can be bailed in without the bank actually failing in a legal sense. Belatedly, some regulators have recognised the weak point here: these *Coco* bonds will gravitate to the most ignorant holders in the market because they know least about the risk involved. When the crisis comes, governments probably will not bite the bullet and allow the bailing-in to happen. This will be driven in part by consumer protection considerations and partly by the belief that if bonds are bailed in, bond-holders in general will "run", just like bank depositors in the pre-guarantee days.

So the "more capital" path is necessary, desirable and helpful, but not enough.

This might make reformers go back a step and ask why financial enterprises (often banks) aren't just allowed to fail. Why do we have "too big to fail" and its variants—"too important to fail" and "too interconnected to fail"? Before we see this as the crisis panacea, let's keep in mind, however, the record; almost no-one (big/small, banks/non-banks) was allowed to fail in 2008.¹⁸ Finally Lehman was allowed to go and the powerful lesson for future crisis managers is: "don't let this happen again".

This leads to attempts to make an environment when banks *can* go broke, even in a crisis, without setting off system-wide problems. Hence "living wills": preparation for institutional death and the

¹⁷ This was not entirely altruistic as their own banks were heavily indebted to the Irish banks

¹⁸ Not even General Motors! The problem is not just the traditional issue of contagion to other institutions, but issues of consumer protection and interconnectedness. In the right institutional environment, permitting failure might be an element of crisis resolution in some circumstances, but not often.

identification of “systemically important banks”. Would Lehman Brothers have been identified ex-ante as systemic? Probably not. Would it be saved if history could be re-run? Almost certainly, yes. In this context it is worth noting that the crisis was ameliorated by bank mergers, so the banks are bigger now than before the crisis, exacerbating the TBTF problem. We are now six years beyond the crisis and the head of the FSF is promising that TBTF might be solved by the time of the Brisbane G20 meeting. Good luck!

One relevant policy initiative for enhancing bank safety is the new emphasis on macro-prudential policy. This takes the attention of the regulators in the right direction. Even when individual banks are safe, they may, collectively, be doing things that create systemic instability. Macro-prudential tools provide an effective policy response when credit is growing too fast and when asset prices are too strong. This is exactly the area where conventional monetary policy has shown its weakness: the instrument of monetary policy—the short-term interest rate—is not all that powerful in restraining pro-cyclical credit growth and not at all appropriate for countering asset price bubbles.

Thus an array of macro-prudential instruments—loan/valuation limits, loan/income ratios, reserve requirements, stable funding requirements—have been added to the armoury. As Asian countries (including Singapore) know, this arsenal can usefully be supplemented by instruments such as transfer taxes that come under the Minister of Finance. Such taxes have shown more effectiveness than raising interest rates.¹⁹

So far I have talked about measures which, in one form or another, have been taken. *The underlying message is, I hope, clear: these measures don't seem to be enough to cope with the shocks which the financial sector will encounter.* Going beyond what reform measures are already in train, what more might be done?

A valuable policy path would be to re-establish a sharp-edged operational difference between the banking sector and the shadow banking sector. The first step here is to limit the range of balance-sheet activities that can be undertaken by institutions which are protected, either by the government depositor guarantee or by an implicit TBTF.

Sheltering under this umbrella of TBTF, banks expanded their activities far beyond deposit-taking and lending. What started as a limited guarantee to prevent runs on banks becomes a taxpayer-funded guarantee for all the activities carried out by banks (and perhaps other financial institutions as well). Of course this greatly increased the risk. It's not as if the deposit/lending component of banks' business was low risk, but at least for this component there was a clear social benefit. *But there is no*

¹⁹ Of course these macro-prudential policies are just the new garb of the intrusive controls that characterised the pre-1980s regulated era. As such, there are many sceptics. These sorts of direct controls were not abandoned (during the course of deregulation) because they were ineffective, but because they were not competitively neutral vis-à-vis the non-banking financial sector. By tightly limiting what the banks could do, they encouraged what we used to call disintermediation – what we would now call the rise of the shadow banking sector. Thus any attempt to make the banking side safer will run into serious arguments about competitive neutrality and the stifling of innovation.

way that taxpayers' funds ought to be used to protect balance sheets damaged by trading losses in speculative markets.

This logic has led at least some authorities to restore some distinction between banking and other financial transactions. Two models have evolved. The Volcker Rule (well short of a return to Glass-Steagall), which restricts the propriety trading of banks; and the ring-fencing model (the U.K. and Europe) which tries to isolate (in balance-sheet terms) the core business of banking, leaving the other activities clearly outside the guarantee.

These attempts to define the banking sector more narrowly and precisely were driven largely by a desire to conserve taxpayers' funds in the event of failure, but there is much wider benefit to creating a tighter and sharper boundary: it would *alter the way financial markets behave by changing incentives*. Banking might once again become a boring business run by conservative risk-averse managers.

Inevitably, these attempts to redraw the boundary have been subject to concerted push-back by the bankers and the outcome looks half-hearted and incomplete at best. But let's push past this inconvenient reality and take this idea to its logical conclusion.

Once the boundary between the protected banking sector and the unprotected shadow banking sector is drawn more clearly, the task is four-fold:

- To ensure safety and stability on the banking side of the boundary;
- To encourage a spectrum of risk and heterogeneity of balance sheets on the non-protected shadow banking side of the boundary;
- To impose clear "caveat emptor" understandings on the shadow-banking side; and
- To prevent interconnectedness between the two sectors.

What should be done to ensure *safety for the banking side* of the divide? For a start, the regulators need to focus more on the assets-side of the banks' balance-sheets. Almost always, system-wide problems start here (a collapse in asset prices or an exchange rate problem) rather than in the relatively easily fixable systemic liquidity issues on the banks' liability side. Banks, with their informational advantages about borrowers' financial position, have a comparative advantage in lending to modest-scale investors. One of the banks' key functions is to serve as guardians on the gateway to investment and to keep an experienced eye on how their borrowers are travelling (which they can do through their provision of payments services to firms). So the key is for the regulators to enforce the focus on asset quality.

The post-crisis measures seem to be moving in the wrong direction here. Basel has not given up on risk-weighted capital (i.e. measure of capital that take into account the quality of the asset), but it accepts that the concept has been so thoroughly gamed by the banks that a belt-and-braces approach is needed. In addition to the risk-weighted capital requirements, there will be a leverage ratio—the same idea, but without any differentiation between intrinsically-conservative assets and

more risky assets. This is moving in the wrong direction. The proper direction is to give more encouragement for banks to hold strong assets, not to abandon that attempt.

So much for the protected banking side of the divide. What about the unprotected “caveat emptor” side? There are strong pressures to provide the same sort of protection on this side. Governments are pressured by the public to extend consumer protection. As well, non-banks seek this sort of protection for their own commercial advantage and argue in terms of “competitive neutrality”: they say that whatever protective advantages have been given to the banks should be given to all financial institutions. And the regulators themselves like the neatness of uniform regulation applying to all. They do not like the idea of “regulatory arbitrage” where institutions have the option of shifting to a lighter-regulated environment.

Changing the entrenched mind-sets here will be hard, but critically important. We must make the argument that *heterogeneity is a desirable, even vital, quality in the financial sector*, and it should be encouraged rather than have all institutions pushed into a procrustean bed of uniform regulation.

From the viewpoint of the users of financial services—whether this is an investor/borrower or a saver/depositor, heterogeneity is an advantage just as it is an advantage for consumers everywhere to have choice of different products. Uniform regulation has produced the bland European uniform sausage: we do not want that to happen in finance! And it’s not just about widening consumer choice. I shall argue here that heterogeneity will make the financial sector safer, reduce dynamic instability in price discovery and reduce pro-cyclicality of financial markets.

Let me try to spell this out. We understand that there is a trade-off between financial stability on the one hand, and freedom from innovation-dampening intrusive regulation on the other. But this does not mean that every institution in the financial sector should be at the same point on this trade-off. We certainly want a financial sector which is ready to provide risk capital for innovative entrepreneurs with real prospects of failure. At the same time we want safe places for the widows and orphans to deposit their meagre funds. It is inconsistent with this model to expect that there will be uniform regulation and uniform opportunities to offer financial products across the whole of the financial sector. Financial entity balance sheets will not all look alike.

If, in response to consumer protection concerns or vested interest lobbying, the financial sector gets uniform protection, with everyone regulated by much the same rules and nearly everyone is saved in the event of a crisis, then this risk spectrum is lost. We want a financial sector which emphasises risk differences: a financial sector which says, up front, that a particular asset is risky and thus promises a higher offered return. Non-banks should offer an investment asset which, when it fails, the investor says “yes, I understood that sometimes things do not turn out as we hoped”. I do not see much effort in this direction so far.

Avinash Persaud reminds us that it is a mistake to require all financial institutions to have the same kind of risk framework (and uniform accounting to go with this).²⁰ Structural liquidity comes, not from deep markets with high turnover, but from *heterogeneity among the various investors in the markets*. Different investors are looking for different attributes and characteristics from their investment. Banks need to manage their funding liquidity carefully, but insurance companies and pension funds are not intrinsically subject to this kind of liquidity risk. Their concern is the longer-term value of their assets—credit risk. To impose an artificial uniformity through the accounting and risk framework loses the potential liquidity inherent in heterogeneity. If all institutions are required to value their assets in the same way—using common risk assessment models, the same external credit ratings and the same audit and accounting rules, then market price discovery will be dynamically unstable. All portfolio managers and investors will be driven by the same decision criteria, the same “sell” triggers and will make the same market moves. A small price movement will be exaggerated. Pro-cyclicality will occur.

If, on the other hand, different institutions see different attributes in the same asset, it is legitimate to value it differently. With different valuation criteria, when one type of institution (say, the banks) sells an asset because it no longer suits its liquidity requirements, this asset—at only a small price discount—may be attractive for a different institution needing different attributes—in this case with a lower priority for liquidity. Dynamic price instability is reduced.

Once we recognise that not everyone—or very institution—needs immediate liquidity, the differences could be incorporated into different accounting standards and this would change the way institutions are managed. Insurance companies and pension funds need to worry about credit risk but not so much about liquidity risk. They should be permitted to use a hold-to-maturity accounting framework which encourages them to hold their assets through the various cycles of “risk-on/risk-off” and even the longer business cycles, not requiring them to mark-to-market and not requiring them to provide ready withdrawal facilities to their investors.²¹

We shouldn't blame the portfolio managers here: much of the problem of dynamic instability comes *from the mindset of the investors themselves* – for example, their over-developed desire for liquidity in their asset-holding. As Keynes noted, the desire for liquidity is one of the most over-rated investment criteria. Most investors are in the market for the long-term, with pension income as a primary motive. Why the need for liquidity? Wouldn't it have been better to have bought some of Warren Buffett's Berkshire Hathaway shares *and just sat on them*, even when they were not doing so well (as occurred during the Tech Boom – but not for long)?

If the value of liquidity could be seen in its proper perspective, investor behaviour would change profoundly. Instead of investors monitoring the market in order to get out ahead of the crowd when the

²⁰ [Avinash D. Persaud 'Why We Must Break Up the Financial Herd'](http://www.piie.com/publications/papers/paper.cfm?ResearchID=2692) Peterson Institute for International Economics October 2014 <http://www.piie.com/publications/papers/paper.cfm?ResearchID=2692>

²¹ Their main regulatory risk is on the liability side: that they have offered overly favourable insurance promises to their customers.

lemmings start to run, financial markets would work better if most investors were Graham-style value investors and, like Warren Buffett, chose carefully and then retained their investments through the cycle, confident that prices would revert.

There is more than the Buffett example. Burton Malkiel identified the superiority of passive investors in the first edition of *“Random Walk down Wall Street”*. Forty years and ten editions later, the evidence remains compelling.²² It’s true that “past performance is no guide to the future”, but it’s also true that past performance demonstrates conclusively that *fund managers, taken together, can’t get a better return than the market average.*²³

How to encourage this longer-term view? Perhaps the advantages which most governments give for retirement saving could be targeted specifically at closed-end funds with limited liquidity. The Singapore approach to pensions provides an example which might be followed by others. Encouraging pensions to be in the form of annuities would also encourage longer-terms asset-holding. This would certainly focus the minds of investors on risk and return rather than how to get out ahead of the momentum-following lemmings.

Perhaps, too, governments should try harder to educate the public about the below-average performance of active fund managers. It hardly needs mentioning that promoting this message would not be popular with fund managers, but it would be a step in the right direction. Perhaps, too, part of the answer will be found in sovereign wealth funds which have the capacity to take a longer-term view and do not run the risk that investors will quit at every tremble in the market.

Would it be unfair or unusual to encourage investors to shift into less-liquid arrangements? It’s not as if such longer term arrangements are uncommon—after all, people are accustomed to long-term rental contracts or employment contracts. These limit an individual’s freedom to change their mind every day, but they are seen as sensible arrangements for both sides of the contract, with other overriding benefits such as certainty. Already there are many hedge funds that restrict the ability of investors to withdraw their money at will because the fund is invested in illiquid assets. This might become a much more common model that might be particularly suitable for infrastructure and other clearly illiquid assets investment.

To put this in a general context, the financial sector has over-promised in its ability to provide funding investors with liquidity when the counterpart fundamental investment is illiquid. This degree of liquidity transformation was a mirage. The institutional framework needs to adapt to this reality. This strategy requires the two further measures mentioned above. First, to enforce a clearer ‘caveat emptor’ modus

²² Burton Malkiel (2012) ‘A Random Walk down Wall Street’

²³ Of course if everyone were to be passive investors, the price discovery process would be imperfect. But we have already noted that the current frantic trading, with the majority driven by mindless algorithms, is a poor alternative. We only need a handful of active investors to get effective price discovery.

operandi on this sector, understood by all players, especially the investors with money at stake. Second, to limit the interconnectedness with the intermediated sector.

How to ensure there are no illusions about the risks in the shadow banking sector? The myriad things that were done post-2008 to help the shadow banking sector and save the participants all served to set unhelpful precedents, which need to be unwound in a time-consistent credible way. The authorities need to vigorously pursue a strategy of reminding everyone that *their money is not safe here*. Doing this will, of course, be most unpopular with anyone who makes their living in this sector.²⁴ But there can be no half-measures, self-censorship or prevarication if this element is to succeed. The risk must be displayed prominently and unambiguously.

This ambiguity has, unfortunately, increased rather than diminished. Here is a recent example: the New York money market. One of the shadow banking institutions which required a government guarantee in 2008 was the New York money market. This market relied on various fudges, notably the notion that assets in this market never “broke the buck”. This gave false comfort (and blame-protection) to corporate treasurers. Since then, instead of the authorities enforcing the mark-to-market accounting and warning CFOs that they could lose money if they keep their corporate cash balances here, the issues have been fuzzed once again, not only on mark-to-market, but by fuzzing liquidity through the possibility of gates to limit (but not prevent) withdrawal.

This example demonstrates the sort of toughness that would be required to create a true *caveat emptor* sector. The New York money market would be much smaller and those who currently make their living from it, or have invested in it, will resist strongly.

How to limit interconnectedness? Work on both sides of the border. The first step is to emphasise the message that funds can be lost in the mark-to-market shadow sector. This would, inter alia, encourage CFOs to bring their cash balances back into bank deposits, where they belong. At the same time, the regulators should closely scrutinise the sources of bank funds, asking the question “how stable would these be in a crisis?” In particular, they need to look at the stability of FX funding sources because the authorities cannot easily replace these funds with domestic liquidity support.

Of special interest here is what might be done about risk-transfer instruments (e.g. options) that cross from the banking sector to the shadow banking sector. Should banks be able to lay off their risks with these instruments, thus reducing the capital they hold against these risks?²⁵ Risk transfer has not, generally, worked as was claimed—to shift risk to those who can best bear it. Rather, risk has often been shifted to those who understood it least. In these circumstances the regulators should give *no value to this kind of risk transfer*. The system would, in fact, have worked substantially better if risk

²⁴ I recall an example in Australia where a non-bank intermediary claimed to be ‘safer than a bank’ and was allowed to get away with this without response from the regulators. It later failed.

²⁵ Another example of this sort of risk transfer is mortgage insurance. The regulators treat insured mortgages more favourably than uninsured. Yet the institutions providing this insurance are at greater risk than the banks themselves, without enough capital to handle a systemic mortgage problem which could occur with a recession which reduced asset prices and raised unemployment.

had remained with those who originated the instruments and who understood them best. Decision-making would have been better if this had been the case. Returning to a simpler, less layered and less inter-connected financial sector is part of the objective here.

If all this were to be done, would this get us to the necessary stage where the banking sector was, in Taleb's phrase, "anti-fragile"²⁶ and the shadow banking sector was not only "caveat emptor" in principle, but in practice also—i.e. where the authorities would stand by and let institutions fail?

These policy suggestions to sharpen the divide between banks and shadow banks may seem totally unattainable. Of course it will be difficult to create such a clear "caveat emptor" message. Anything at all which the authorities do in this sector—even to enforce transparency of disclosure—will leave some impression that the authorities are involved and consumers will look to them not just for more ex-ante protection in the form of disclosure, but bring political pressure to bear post-crisis in order to protect consumers whose pathetic tales will gain sympathetic publicity.

Faced by this, the authorities need to ask themselves: "Are we trying to fix the problem or are we just going to fudge it once again?" The task is formidable, but not impossible. After all, it's universally accepted that if you invest directly in equities, you take the hit when asset prices fall. It's only when assets were bundled up in obscure instruments that investors claimed that they had been tricked and that the government should help them. It's universally accepted that if you lose money in a casino, the government doesn't bail you out, no matter how pathetic your story. What's different about the casino of the financial markets, except that the odds are less well-defined in financial markets?

The hope is that, since the early de-regulation era three decades ago, the mind-set has changed in several ways, beneficially. We have now had a recent reminder of just how enormously damaging a financial crisis is, so society may be more ready to pay a price for financial stability. We hear less, these days, about the "moral hazard" justification for regulatory inaction. 2008 also undermined the "light-touch" implications of efficient markets dogma.

As far as competitive neutrality goes, both banks and the shadow banking sector will find things to dislike in these proposals, so in that sense there is a kind of neutrality. Is it unfair to require money market funds to prominently display the possibility that investors may not get back the full nominal value of their investment, and that their funds have no guarantee analogous to depositors? Surely not, if we believe in transparency. Can the CFOs complain because they previously got a slightly better return by putting their cash in the money market? Not at all: it's now explicit that they enjoyed an implicit government guarantee for which there was no justification. Banks complain that they have to hold more capital, but they do not have to mark-to-market on their lending assets and they have the central bank's support for their liquidity, as well as the continuing TBTF halo giving them considerable advantages for their fund-raising. The banking sector's complaints about unfair treatment will have more credibility when the banks start turning in their licenses, which does not seem in prospect.

²⁶ Nassim Taleb (2014) 'Anti-fragile: Things that gain from Disorder'

When financial practitioners complain that these measures will limit the size of the financial sector and slow down the growth of credit, the brave (and proper) answer would be: “yes, this is exactly what should happen”.

Think how such a change would alter market outcomes beneficially! Instead of all the information search and analytical power going into trying to predict the turning points of the cycle, the next market twitch and the next switch from “risk-on” to “risk-off”, the effort would go into trying to pick the best longer-term performing companies. In response, management would spend less time talking up the current share price and more time making their companies attractive for buy-and-hold investors.

Conclusion

It is hard to avoid the feeling that what goes around comes around. Three decades ago, we saw the process of de-regulation as inevitable and largely desirable. We contemplated the process of disintermediation (what we now call the rise of shadow banking) with satisfaction as it seemed that the greater role of capital markets would cut the cost of funding, widen the range of customers on both sides of the market, encourage the development of a range of helpful risk-management instruments and even free us from the oligopolistic clutches of the banks. Not much of this vision has worked out as expected, but the financial sector has certainly changed.

It has grown, and in many countries accounts for up to 10 per cent of the GDP, putting it alongside manufacturing in terms of importance. It is by far the best-paid sector, thus attracting the cream of our youth and a large share of the best brains. 2008 showed it at its worse, at least in the U.S., the U.K. and Europe. In its intermediation function, it failed to provide a safe repository for saving (with depositors rescued only thanks to government assistance). It steered investable funds into over-investment in housing. The current pessimism about stagnation suggests that the heavy-weight financial sector has not done much better at identifying the best investment projects than the much less sophisticated, less resource-intensive finance sector did before de-regulation.²⁷ There is little doubt that the stock-market and mark-to-market accounting have forced a damaging short-termism on company decision. As well, portfolio managers demonstrated once again the Malkiel (“*Random Walk Down Wall Street*”) truth that they cannot beat the index.

Have the post-crisis years shown big change? Has the institutional structure of fund management or securitisation changed to embed this new knowledge of risk into the corporate culture? No. Have the pernicious short-term incentives of the bonus structure changed? Not much. Did people who had made these mistakes end up in jail? No. Did they get drummed out of their high-level jobs in disgrace? No—they jumped with golden parachutes.

²⁷ See, e.g. Robert Gordon ‘The Demise of U.S. Economic Growth: Restatement, Rebuttal, and Reflections’ NBER Working Paper No. 19895, February 2014

I began by making the three-fold categorisation into macro-policy, market institutions and regulation. I hope you are left with a message that the post-crisis reform has focused on more bank capital but not much else has happened to reduce the pro-cyclicality of the financial sector or lessen the malfunctions and dynamic instability of financial markets. Where macro-policy is competent and regulators are well-supported politically, the weaknesses of the financial markets may be held in check and when the crisis arrives, good macro-policy can soften its impact.²⁸ My main positive suggestion here is to work far more boldly to enforce a sharp distinction between the guaranteed banking sector and the shadow banking sector, reinforcing the idea that the shadow banking sector is “caveat emptor”. Strong political backing for regulators can counter the powerful vested interests which have been so unhelpful in the reform process. Meanwhile, salvation lies in keeping the memories fresh of the enormous cost of the 2008 crisis and the egregious errors that caused it to happen.

²⁸ Some useful suggestions for improving macro-policy are explored in Claudio Borio ‘Monetary policy and financial stability: what role in prevention and recovery?’ BIS Working Papers No. 440, January 2014. <http://www.bis.org/publ/work440.htm>

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