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FRAMEWORK FOR SECURITIES REGULATION POST-GFC

Following the global financial crisis, the conceptual framework that underpins securities regulation needs to be adjusted to take into account what we have learned from the crisis, and how agency, network and behavioural theories can inform our understanding of markets and their participants. The main challenges for regulators are to set a realistic definition for financial stability and to find ways to achieve it at reasonable cost.

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This paper seeks to contribute to the rethinking of securities regulation (of equities, bonds, collective investments, derivatives and other financial products and, in some countries, credit) that is under way around the world, taking a three-step approach:[2]

- It reviews what we thought we knew.
- It identifies what we learned from the crisis, highlighting where we were wrong and what we now know.
- It examines what this implies in terms of a new conceptual framework for securities regulators.

The paper is a preliminary view and reflects an increased focus on the role of securities regulation for economic and financial outcomes, compared to the pre-crisis concentration on economic policy making and prudential supervision. In the three years since the first clear signs of crisis, many immediate lessons have already been identified. Detailed work to improve securities regulation is under way in every country and across the world under the auspices of IOSCO (International Organisation of Securities Commissions) and the G20. There is progress on transparency, counterparty risk, hedge funds, securitisation, over-the-counter (OTC) derivatives, standards for credit ratings agencies, unregulated entities, products, markets, accounting issues and more.

This review seeks to build on the learning and the responses made so far. This progress has been made with the pre-crisis mindset still top of mind, to make the old regime work more safely. However, the main conclusion drawn by the G20 leaders to date is that the arms of policy — macroeconomic, prudential and regulatory — were inadequately directed towards financial stability. The debates over how to achieve financial stability will strongly influence the post-crisis approach to be adopted for securities regulation.

What we thought we knew

How the pre-crisis conceptual framework for securities regulation spread

The market-based conceptual framework spread through the regulatory world over several decades, forming the basis of the IOSCO Objectives and Principles of Securities Regulation (IOSCO 2003). These objectives and principles largely adopted the evolving US approach, with its emphasis on retail investors and equity trading and self-regulatory organisations (Jordan 2009). This deregulatory pro-market mindset was widely seen as contributing to the development of the 'Great Moderation' (Bernanke 2004).

Part of the appeal was the interlocking and self-reinforcing 'beauty' of the market-based conceptual framework. Similar beauty was also seen in economics and in 'efficient

markets theories' (Krugman 2009), appearing as 'a complete set of answers resting on a unified intellectual system and methodology' (Turner 2010) with strong intellectual backing.

Key aspects of the conceptual framework
Taken together, we can identify several components of the prevailing conceptual framework underlying securities regulation, including that:

- *Markets are generally self-stabilising.* As a result, regulators intervened rarely and only if justified by market failure. Our role was to stay out of the way of market developments, imposing as few barriers to their expression as possible.
- *Disclosure overcomes information asymmetries and resolves conflicts of interest.* No further protections were felt to be required — other than action to protect market integrity.
- *Corporate governance imposes effective discipline on risk taking.* Corporate governance was seen as a cornerstone of market-based processes.
- *Market gatekeepers uphold proper standards.* The standards set by market gatekeepers were relied on by regulators and by investors.
- *Interconnections between markets and innovations in finance generally add to welfare.* Completeness and size of markets were seen as measures of success.
- *The behaviour of actors in the market is, in effect, 'rational'.* Market prices were seen as the best (or least bad) indicator of rationally evaluated economic value.

With hindsight, it is clear that assumptions formed much of the foundations that underlay these beliefs, based around faith that market participants would be rational and prices quickly reflect all information. Within academic, policy making and regulatory circles, the operation of the financial sector was very much an unpacked 'black box'.

Relationship with macroeconomic policy and differences in approach and architecture
This belief-set meshed well with the global evolution of macroeconomic policy. In the decades prior to the crisis '[f]inancial regulation targeted the soundness of individual institutions and aimed at correcting market failures stemming from asymmetric information, limited liability, and other imperfections such as implicit or explicit government guarantees' (Blanchard 2010). By contrast, increasingly, macroeconomic policy was implemented through a single instrument, the short-term interest rate, aimed at achieving a target of very low inflation.

The wider use of financial regulation for macroeconomic purposes was generally not in vogue, with the few exceptions including Spain and Colombia (where provisioning was linked to credit growth) and active changes in regulated housing loan-to-value ratios and land supply policies in Hong Kong.

The prevailing mindset treated the financial process as a 'black box', seamlessly and without friction producing sufficient finance to meet fundamental demand. The crisis showed a lack of understanding of the economics of securities markets and the interconnections with the broader finance sector and the economy.

Research
The 'black box' that was the financial sector, in terms of models of the economy, the assumptions of rational actors and full disclosure of information, was not an encouragement for research. Nevertheless, many securities regulators had built up economics research teams to support the regulatory work shaped by the pro-market deregulatory mindset.

What we learned from the crisis

Errors in the prevailing conceptual framework
The crisis has reminded us all that 'the enemy of the conventional wisdom is not ideas but the march of events' (Galbraith 1977). The rhetoric over the markets' ability to return to fundamental value quickly, without destructive destabilisation or requiring government intervention, exceeded the reality.

Most of the beliefs were found to be overstated, rather than completely repudiated, in the crisis:

- *Markets are generally self-stabilising …* in normal times but particular problems arose from risk build-up, market failures and spillovers in markets for debt securities and their derivatives.
- *Disclosure overcomes information asymmetries and resolves conflicts of interest …* only if investors are 'homo economicus' and if financial services agents are angels.
- *Corporate governance imposes effective discipline on risk taking …* in normal times, but by the end of a long build-up of risk-taking, the pressure of incentives on those involved in the governance of corporate and financial institutions can overwhelm normal processes.
- *Market gatekeepers uphold proper standards …* until self-interest from incentives outweighs the value of the gatekeepers' reputation, and complexity and work pressures make it easier and more rewarding to allow standards to drop.
- *Interconnections between markets and innovations in finance generally add to welfare …* until the spate of ever more complex and leveraged innovations undermined risk management and prevented the resolution of problems once markets began to fail.

> *The behaviour of actors in the market is, in effect, rational …* in normal times up to a point, but even professional and/or sophisticated investors seemed to make as many or more mistakes as did retail investors.

Since the crisis we have learned in addition that:

1. *Market prices are sometimes irrational*

In the crisis, the market made a catastrophic error in underpricing risk, especially in credit. It now seems that markets are 'imperfectly efficient' for long periods reasonably efficient but occasionally very inefficient (Smithers 2009) — suggesting little gains for most from active management and engagement with complex financial products and structures.

2. *Securitised credit did not distribute risk or promote financial stability*

The 'originate and distribute' model did not achieve the expected reductions in banking system risks and in the total cost of credit intermediation. Investors, issuers, originators and associated gatekeepers, such as valuers and credit ratings agencies, did not uphold their standards in the face of complexity and innovation (Haldane 2009).

3. *Quantitative measures of risk were wrong*

The data fed into the models were atypical, from an era of stability, causing models to underestimate the probability of 'long-tail' events (Taleb 2001 and 2007). Contradicting the pre-crisis enthusiasm, the commonly used risk models were worse than unrealistic: they were 'weapons of economic mass destruction' (Eichengreen 2009).

4. *Regulators must understand finance, especially easy credit and networks*

The prevailing mindset treated the financial process as a 'black box', seamlessly and without friction producing sufficient finance to meet fundamental demand. The crisis showed a lack of understanding of the economics of securities markets and the interconnections with the broader finance sector and the economy.

We did not adequately understand:

> *how banking and capital market developments are inseparable and fluctuations in financial conditions have a far-reaching impact on the workings of the real economy* (Adrian and Shin 2010);

> *the economics of credit cycles, as explored by US economist and banker Hyman Minsky* (Minsky 1986), and the potential for regulators to be seduced by the prosperity of a boom, contributing to the inherent procyclicality of the economic and financial system (White 2010);

> *asset price bubbles, especially in housing* — suggesting that the entire approach to regulation of the housing market warrants further thought, including facilitation of financial innovations which can bring benefits (risk management, hedging, narrower spreads, reductions in information asymmetries and improved alignment of interests of agents and clients) to participants (e.g. Shiller 2003);

> *the size of the finance sector and the impact of interconnections between financial sectors in different countries* (Kubelec and Sá 2009; Haldane 2010);

> *network resilience* (Haldane 2010). Restrictions or prohibitions on activities are back on the international policy agenda, as regulators ask if network structure can be altered to improve network robustness;

> *the 'shadow banking system'* (Tucker 2010) and implications for the fragility of the financial system as a whole (Adrian and Shin 2010);

> *the procyclicality of much regulation* — including interaction of prudential and securities regulation to amplify effects that transformed the decrease in US housing prices into a major world economic crisis; or

> *the behaviour of financial market participants and financial services agents* — particularly conflicts between self-interest and actual or implied fiduciary duties of agents. This raises issues such as the degree of reliance on disclosure and choosing between regulating management of conflicts of interest versus removal of the conflict. In that latter regard, Zingales (2009) suggests that bankers should be prevented from owning funds management businesses, while Fisch (2010) proposes creation of new agencies, to develop standardised financial products coupled with corresponding disclosure principles to confirm or explain material differences.

The regulatory approach, regulatory architecture and coordination

Though there has been no conclusive debate, it does seem that the 'black letter law' versions of rules-based approaches in the crisis were more prone to incomplete regulatory coverage of innovations than were principles-based approaches.

In addition, when selecting a regulatory architecture for a country, it is important to bear in mind the process involved in regulating. Regulation of market conduct occurs daily, very different in practice to prudential and systemic risk monitoring, which has a longer-term focus. Where the functions were combined, there was an inexorable tendency for market conduct activities to distract from prudential supervision and the pursuit of financial stability.

Though no one regulatory approach or institutional architecture proved fail-safe, the countries that fared least badly (Australia and Canada) seem to have had securities regulators that cooperated and coordinated closely with the prudential regulator, the central bank and the finance ministry.

The greatest challenge to the pre-crisis narrative: achieving financial stability

Perhaps the most significant challenge facing all regulators and policy makers is that the narrative — the big-picture paradigm that sustained trust in financial markets in the pre-crisis period — has been severely battered by the

crisis. This is especially so in banking. Central banks had been expected to rescue the illiquid but not the insolvent (Bagehot 1873), an initially useful constructive ambiguity. But, in the crisis, the insolvent also had to be rescued and the expected market-driven consequences of poor risk-taking have not been allowed to occur.

In the securities space, many markets failed, central banks became market-makers of last resort and many regulators intervened to at least temporarily ban short selling of many equities.

Globally, policy makers, regulators and academics are now exploring elements of a sustainable paradigm on which to build a convincing new overarching narrative. By now, it is clear that the new narrative will have financial stability at its centre.

What this implies for the future

Defining financial stability

The commitment of G20 leaders to financial stability and the containment of systemic stability sets a goal ranking at least equally to the promotion of economic growth or the achievement of market efficiency and a new (or enhanced) responsibility for central banks or a separate system risk regulator (IMF 2010).

Financial stability can be defined narrowly or broadly (Čihák 2006):

- A narrow definition sees financial stability as the antithesis of financial crises (system-wide episodes in which the financial system fails to function and the institutional underpinnings of a monetary economy are disrupted).
- The broadest definition would be where the efficiency of financial intermediation is not likely to be subject to significant adverse shocks.

The broader the definition of financial stability, the less the maintenance of stability can be the sole responsibility of the central bank.

In practice, for securities regulators, financial stability should not be 'no failures' or 'no volatility' but 'no failures or volatility that threaten a systemic collapse'. Similarly, it should not be 'no loss of confidence' but 'no loss of confidence that threatens a run on the financial system'.

Determining the tools to use to achieve financial stability

Fundamental thinking has begun in the macroprudential regulation space (Haldane 2010), with detailed considerations being explored for managing systemic risk (IMF 2010).

The potential is to extend the range of effective policy instruments to encompass regulatory tools, such as capital asset and liquidity and leverage ratios applied to banks and other credit institutions or extended to managed investment funds that do use significant leverage (e.g. hedge funds), and even to the loan-to-value ratios permitted for mortgages on residential property and to margin loans for share portfolios.

From a securities regulatory perspective, we agree that commercial banking and its credit intermediation function are so special that prudential regulation is necessary for commercial banks and similar service providers.

The problem is that wrapping banks in prudential regulation, in turn, confers an implicit government guarantee in the minds of the community and the banks. The implicit guarantee creates moral hazards for both banks and their customers. As a result, they have incentives to take on exposures without properly considering the risks.

So far, there is no consensus on what mix of increases in capital, liquidity and leverage ratios, imposition of restrictions, prohibitions and taxation and facilitation of resolution and failure will be the likely ultimate preferred approach to address this moral hazard. There is also no consensus over what 'insurance premium' is worth paying to secure adequate financial stability. What is decided will be critical for securities regulators.

Revising the conceptual framework: can financial stability be achieved at reasonable cost?

Pursuit and maintenance of financial stability is a very difficult goal, because a 'free-rider' problem is likely to frustrate its achievement. For any individual, greater financial stability implies a reduction in risk, which will signal to that individual that it is safe to take on more debt and more risk. The aggregated actions of individuals will increase risk and the prospect of greater instability.

It may well be that financial stability is better interpreted as a very broad goal, or regulators will be forced into an ever-tightening spiral of restrictions that drastically impede economic activity.

We think that the way ahead for securities regulators is to help create a financial environment in which all actors in financial markets (be they issuers, investors or agents) can make more rational, informed decisions. This will require regulatory actions that take into account what we have learned from behavioural economics and agency theory. Regulation should take behavioural biases into account. It should also help align the interests of financial services

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agents with consumers' interests. Investors can only be expected to take rational decisions if they have available substantial financial education as well as the benefits of continuous, clear and accurate disclosure and, even then, that may not be sufficient. They may also be helped by 'nudging' (Thaler and Sunstein 2008), at some risk to the securities regulator for 'picking winners'.

The preferred approach, architecture and coordination of regulation

To cope with innovation in future, a principles-based regulatory approach is likely to prove superior to a hard/black letter law form of a rules-based approach.

As for the appropriate regulatory architecture, the IMF (2010) favours a single systemic risk regulator and/or moving prudential regulation back into the central bank. However, centralising all financial sector regulation into one agency loses the benefits that separation, independence and accountability can bring (along the lines of the 'twin peaks' in Australia). Separation is a practical way to ensure that the daily workload of the market conduct regulator can avoid distracting the longer-term focus required of the prudential supervisor and the systemic risk regulator. In addition, to avoid gaps and promote accountability, it is better to have one market conduct regulator and one prudential regulator than several in a country. Regardless of structure, a framework for cooperation and sharing between agencies, within and across borders is important.

Home truths for securities regulation

Many securities regulation 'motherhood' truths have come to the fore as a result of the crisis, including those enunciated in February (Kodres 2010):

- The best markets are exchange-traded markets as they are simpler and more transparent.
- More organised clearing venues are preferred to bilateral OTC trading.
- Raising regulatory standards for risky instruments may push them to less-regulated jurisdictions.

But questions arise on what to do if products cannot be made simple or transparent enough to trade on exchanges or to be cleared by an organised venue. Judgement is necessary to avoid creating barriers that frustrate economically efficient transactions.

The need for further research, both national and international

Globally and nationally, securities regulators need to build up capability in financial risk analysis and economic research, to be able to identify and assess risks to financial stability, to engage with other agencies in consideration of pre-emptive regulatory policy measures, and to advise on implementation of countercyclical and macroprudential regulatory measures.

Our most confident prediction is that securities regulators will seek to draw more on an improved economic research capacity, much of it focused on risks. Better, competitive research is desirable at the national and international levels. However, a better research capacity will not guarantee a better outcome if no-one pays attention.

Overall, we see a need for much better modelling of risks and economic interactions, including work on the flow of funds and the flow of risk. Specific research topics on areas of inadequate understanding were set out earlier in this paper. We emphasise the very practical use of a better understanding of insights from agency theory, network economics and behavioural theories. We also see real benefits that could flow from applying what we have learned about effective securities regulation to the housing market.

There will also be new — post-GFC — challenges warranting research, one being the regulatory consequences of the transition to high-frequency trading and other electronic means of submitting orders across markets.

The crisis has also exposed a need for better research at an international level, responsive to the needs of regulators, supervisors and policy makers. International benchmarks and external 'peer-reviewed' risk assessments would be useful. A web of institutions competing in identifying risks would be best: the alternative, a search for consensus, becomes a race to the bottom and ensures perceptive research on risks would be ignored.

Conclusion

The crisis exposed an excessive faith in the self-balancing merits of the pre-crisis market-based deregulatory mindset and a need to rethink the conceptual framework. There are many unanswered questions and similar introspection is occurring in macroeconomics and in financial economics, and in fiscal, monetary, competition and prudential policy.

But the laws of economics have not been repealed. A lower cost of capital is still a vital goal. However, information asymmetry, principal–agent problems, misaligned incentives, complexity and uncertainty persist as fundamental problems.

An immediate take-away is that the extent of the changes to the approach to securities regulation depends on the success of efforts to contain the systemic risk to financial stability from prudentially regulated institutions, especially banks, and the extent to which these efforts shift risk-taking between the prudentially regulated sector and the securities markets.

Regardless of that outcome, there will be plenty to achieve, especially in aligning financial services agents' incentives with investor interests, in taking into account a greater understanding of how finance, markets and human behaviour works, and in understanding and monitoring the tracking of financial risks.

How best to achieve financial stability is a key question. But we expect financial stability is going to be very difficult to deliver. The greatest danger now is that we will over-regulate, sap the availability of finance, stunt enterprise and limit economic growth more than would be required to minimise the risk of excessive financial instability. The need for judgement in the application of regulation remains as challenging and valuable as ever.

Our most confident prediction is that securities regulators will seek to draw more on an improved economic research capacity, much of it focused on risks. Better, competitive research is desirable at the national and international levels. However, a better research capacity will not guarantee a better outcome if no-one pays attention.

Even with better processes to ensure research is taken into account, the financial system will be a source of crisis again. Hopefully, by applying the lessons now learned, it will not be a repeat of the crisis just past. And, perhaps some potential crises can be defused before they occur.■

Notes

1. The views expressed are the personal views of the author and, while they have benefited from comments from colleagues, especially from Steven Bardy, they do not represent the position of the Australian Securities and Investments Commission.
2. The paper's structure and content owes much to Blanchard et al. 2010.

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