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**SECURITISATION, FINANCIAL INNOVATION,
DISINTERMEDIATION: HOW SHOULD
REGULATORS COPE WITH NEW CHALLENGES?**

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**SECURITISATION, INNOVATIONS
FIN, FINTECHES, DISINTERMEDIATION,
COMPLEXITY OF REGULATORY
ENVIRONMENT, CHALLENGES
FOR REGULATORS**

“Out of the Crisis: Shaping the Future of the Global Financial System”

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Key features of the financial turmoil

The turbulence that has struck the international financial system since the middle of 2007 has been extraordinary. There has been an abrupt and widespread increase in the pricing of credit risk alongside a spectacular evaporation of liquidity in many asset markets, most notably in the interbank market.

The present turmoil was preceded by a prolonged phase of broadly based and aggressive risk-taking. The unusually low risk premia and volatilities across asset classes that prevailed before the turmoil, far from being an indication that risk had disappeared, were in fact pointing to its insidious build-up. For several years central bankers in general, and the BIS in particular, had been warning of the strong build-up of risk-taking and leverage in the global financial system. Indeed, the period since the late 1990s has been characterised by low interest rates, leading to an aggressive search for yield, to a major increase in leverage throughout the financial system, and to a sustained rise in the prices of a broad spectrum of financial and real assets. The US subprime mortgage market, where risk was first repriced, was perhaps the area where risk-taking had gone furthest. But the true magnitude of leverage in the system as a whole was partly hidden in opaque “off-balance-sheet” vehicles and was therefore hard to gauge at the time. Indeed, the current turmoil has shown that the financial system had become leveraged to a greater extent than one could have guessed from looking solely at the balance sheets of regulated banking institutions.

The repricing of risk was amplified both by the complexity of new credit instruments, notably structured credits such as collateralised debt obligations, and by the opacity of the distribution of risk exposures throughout the system. Suddenly, from the middle of 2007, this generated a “crisis of confidence” in asset valuations, catalysed by a veritable cascade of credit rating downgrades. The resulting increase in risk aversion led to a generalised distrust of counterparties, as market participants wondered about the size and character of credit and liquidity exposures, both in their own books and in those of others.

This crisis of confidence, in turn, triggered an evaporation of market liquidity for the most opaque and complex financial instruments. Funding liquidity also dried up for those institutions that were suspected of being heavily exposed to these instruments. Special purpose vehicles, such as Structured Investment Vehicles (SIVs) and conduits and their Asset-Backed Commercial Papers (ABCP) programmes, were particularly badly hit. A global financial system that, until then, had appeared to be awash in liquidity suddenly looked starved of it.

Some of the largest internationally active banks were strongly affected, for several reasons. They had massively invested in the new financial products that suddenly lost value and liquidity. They had granted backup credit lines that had to be drawn upon by special purpose vehicles in urgent need of liquidity. And they could no longer rely on other institutions to absorb underwritten credits, notably mortgages and leveraged loans, as the secondary markets for these products effectively closed down. Faced with the threat of an involuntary reintermediation wave, banks retrenched, worried about the prospects for their liquidity and capital.

Tensions spread to the very heart of the global financial system – the uncollateralised interbank money markets in those countries where banks were suspected of being vulnerable to the credit market woes. In particular, a sizeable and lasting risk premium emerged even at the short end of the interbank market, reflecting a mixture of liquidity concerns and uncertainties about counterparty credit risk.

These events have elicited determined and, on a number of recent occasions, coordinated policy responses by central banks. They adjusted their liquidity management operations both to ensure the efficient implementation of their monetary policy objectives and to alleviate the disruptions in interbank markets. In addition, central

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banks carefully reconsidered their policy stances in the face of rapidly changing macroeconomic conditions. With disturbed market conditions still unfolding, it is hard to know how long the deleveraging process that began in 2007 will take, or what its precise dynamics will be. But it will have to run its course and will be accompanied by deflation in asset prices until a new equilibrium is found. As history has shown, this process can be painful.

Surprises and non-surprises

Some of these problems could have been foreseen, and indeed some observers had expressed strong warnings well before the turmoil. Which developments should not have been unexpected? And which have been genuinely surprising?

The **first non-surprise** was the sharp repricing of risk that began in the middle of 2007. The signs of an underpricing of risk had not been hard to discern beforehand. For example, a month before the turmoil, the BIS published its 2007 Annual Report and reiterated its grave concerns about the build-up of financial imbalances and their potential disorderly unwinding. Admittedly, it was impossible to predict the timing of the repricing. But the likelihood that it would occur was not. Indeed, in one respect the fact that it did occur was actually welcome: had the underpricing continued the eventual adjustment would have been worse.

The **second non-surprise** *should* have been the simultaneous evaporation of market liquidity and funding liquidity. Reflecting the increasing marketisation of finance, the system had become critically dependent on liquidity – the oil that greases the wheels of the financial machine, but is the first to disappear when confidence is shaken. Increasing uncertainties about the valuations of complex products and the location of risks in the system exacerbated this process.

The **third non-surprise** *should* have been that banks did not prove immune to the turmoil in credit markets. A key feature of the new financial landscape is precisely the tighter association between banks and other financial market participants. Markets have come to rely on both “traditional” financial firms and “new” types of financial firms for the supply of securities, market-making services and backup liquidity lines. Financial firms increasingly rely on markets for generating new activities and profits and, above all, for managing their own risks. The shift from the originate-and-hold banking model to the originate-and-distribute financial business model, which accelerated in recent years, is just one of the most conspicuous aspects of this growing interaction.

What about the genuine surprises? The **first major surprise** was the sheer intensity and speed with which the turmoil hit the banks. There had been several episodes of banking problems over the past few decades but the associated dislocations in the interbank market were not so severe. It seems that everyone – market participants and policymakers alike – had seriously underestimated the impact of potential tensions in financial markets on the involuntary reintermediation pressures that would affect banks. The geographical reach of these pressures, well beyond the US markets where the subprime crisis originated, had also been underestimated.

The **second surprise** was the major role played by special purpose vehicles – what some observers have aptly characterised as the “shadow banking system”. Conduits and SIVs had grown very rapidly in recent years, but were hardly on the radar screen of market participants, financial authorities, and regulators. And yet, this sector was thinly capitalised and carried out covert liquidity transformation on a large scale. As a result, all observers greatly underestimated the potential liquidity demands that could fall back on the banks, or the degree of leverage embedded in the global financial system.

The **third surprise** was the apparent inadequacy of financial institutions’ capital cushions. The reported high degree of capitalisation of the banking system before the turmoil was a source of pride and comfort to market participants and policymakers alike. And yet, the major efforts that are now being made by banks to strengthen their capital bases suggest that capital cushions are considered too small in the face of currently perceived risks. This is just the latest reminder of how easy it is to overestimate the size of buffers in booming, exuberant times. And it is precisely the non-linearities inherent in the financial system that underlie this all too familiar error of judgment.

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A key element in this context has been the proliferation of what can be called “option-like” payoff patterns in the financial system: knowingly or not, market participants have been increasingly taking positions that yielded modest and steady streams of income in “good” times (akin to the collection of an option “premium”), but could result in large and discontinuous losses in “bad” times. Such “non-linear payoffs” could appear under stressful market conditions when the options were “exercised”. This evolution has resulted from both the development of new financial instruments and the new patterns of behaviour that could raise “tail risks” – costly outcomes that appeared to be very unlikely to occur – while giving the impression of stability. The widespread use of securitisation seems to have particularly facilitated this process, by appearing to disperse risks across the system and hence encouraging risk-taking.

Recent examples are not hard to find: debt contracts increasingly vulnerable to frothy housing prices; CDOs with strong in-built leverage; high leverage in conduits and SIVs involved in liquidity transformation; monoline insurers sailing too close to the wind. All of these strategies yield steady earnings streams in good times, but possibly at the expense of raising tail risks.

Implications for risk managers and policymakers

There are clearly a number of key areas for early action to address the weaknesses uncovered by the current financial turmoil.

1. The first area involves increased transparency, for both financial products and credit risk exposures. Greater transparency involves better accounting and disclosure. More needs to be done to improve the information available about the valuations and risk profiles of individual financial institutions. Some aspects deserve particular attention. One is to provide investors with a sense of the range of uncertainty surrounding the values of those products for which liquid markets do not exist, and for which valuations are model-dependent. Another aspect is to enhance the disclosures of liquidity risks – many of the liquidity risks associated with backup credit lines to special purpose vehicles were at best buried in the footnotes of banks’ financial statements. Greater transparency also involves improvements in credit ratings. As the credit risk profile of products becomes increasingly complex, rating schemes that involve only estimates of probabilities of default and expected [average] losses become less informative as measures of overall risk. Credit rating agencies need to enhance their methodologies to take into consideration additional dimensions of risk. For example, they could include information about the higher moments of the probability distributions, such as unexpected losses, and about the reliability of the ratings themselves. In particular, financial products whose ratings are more vulnerable to model error, or for which less underlying data exist, would command a lower score.
2. The second broad area for action is improvements in risk management practices. Despite obvious difficulties, stress test methodologies should be strengthened and integrated more tightly into risk management processes. The turmoil has confirmed that systems in place have not been up to the task, notably given the problems in capturing credit and liquidity risks of a system-wide nature and in dealing with remote tail risks. More generally, the turmoil is only the latest reminder that models should at best be used as a basis for more judgmental decisions, informed by the prudence that only the experience garnered over several business cycles can provide.
3. The third area involves strengthening incentives to behave prudently. Enhancing information about risk and uncertainty can only take us part of the way unless incentives are addressed head-on. The tendency to front-load compensation and not to tie it sufficiently closely to subsequent outcomes, or even to conservative ex ante risk measures, has no doubt played a role in the current build-up of risk, just as in previous financial crises. Improvements in the design of compensation systems need to be encouraged. Steps to improve transparency, risk management and remuneration incentives should help to address the shortcomings of the originate-and-distribute model that has become so ubiquitous among financial firms. This model has come under heavy criticism in the current turmoil, partly because it has facilitated risk-taking. But it is a business model that basically remains a good one, since it diversifies the risks and revenue streams of banks. It is up to the private sector to redress the weaknesses in this model that the present turmoil has laid bare, to increase the efficiency of the originate-and-distribute model, and at the same time to render it more robust to financial shocks.

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4. And there is a fourth area for action: the general principles underlying the prudential, regulatory and supervisory framework. Arguably, a major cause of financial instability throughout history has been the so-called “excessive procyclicality” of the financial system. This has its roots in the insufficient perception of how financial system-wide risk evolves over time, in inadequate incentives, and in self-reinforcing dynamic processes, both within the financial system itself, and between the financial system and the real economy. When combined, these factors can result in the periodic build-up of very large financial imbalances, whose eventual unwinding can lead to widespread financial distress and macroeconomic weakness. These factors can be particularly disruptive at times of rapid financial innovation, when the relevance of past experience is harder to assess, inducing agents to discount signs of excessive risk-taking.

Addressing this issue requires strengthening the so-called macroprudential approach to financial regulation and supervision. One guiding principle is to encourage the private sector financial institutions at the centre of the system to build up capital and liquidity buffers in good times, as risk and financial imbalances grow, so as to have better cushions in bad times as imbalances unwind and risk materialises. This would strengthen both individual institutions and the financial system as a whole and limit the risk of supervisory forbearance after the problems emerge. It could even help to restrain the build-up of financial imbalances in a pre-emptive way.

There are several ways in which this principle can be implemented. They all involve inducing greater use of conservative measures of risk (for instance, based on experience over several business cycles) in both business decisions and the calibration of prudential tools. The greater reliance on built-in stabilisers in the financial system could be accompanied by more discretionary measures to lean against the build-up of the financial imbalances. Some progress has indeed been made in recent years to strengthen such a macroprudential approach. Examples include important adjustments to Basel II to address procyclicality, the use of statistical loan provisioning in some jurisdictions, and the development of “macro” stress tests. Even so, and despite the analytical and political-economy hurdles involved, more needs to be done in this direction. And, of course, counter-cyclical fiscal policy may also play a useful role in this perspective, by focusing on fiscal restraint to moderate booms and reduce public debt outstanding in good times, so that when problems strike there is room for manoeuvre to limit the negative effects of financial turbulence on aggregate demand and output.