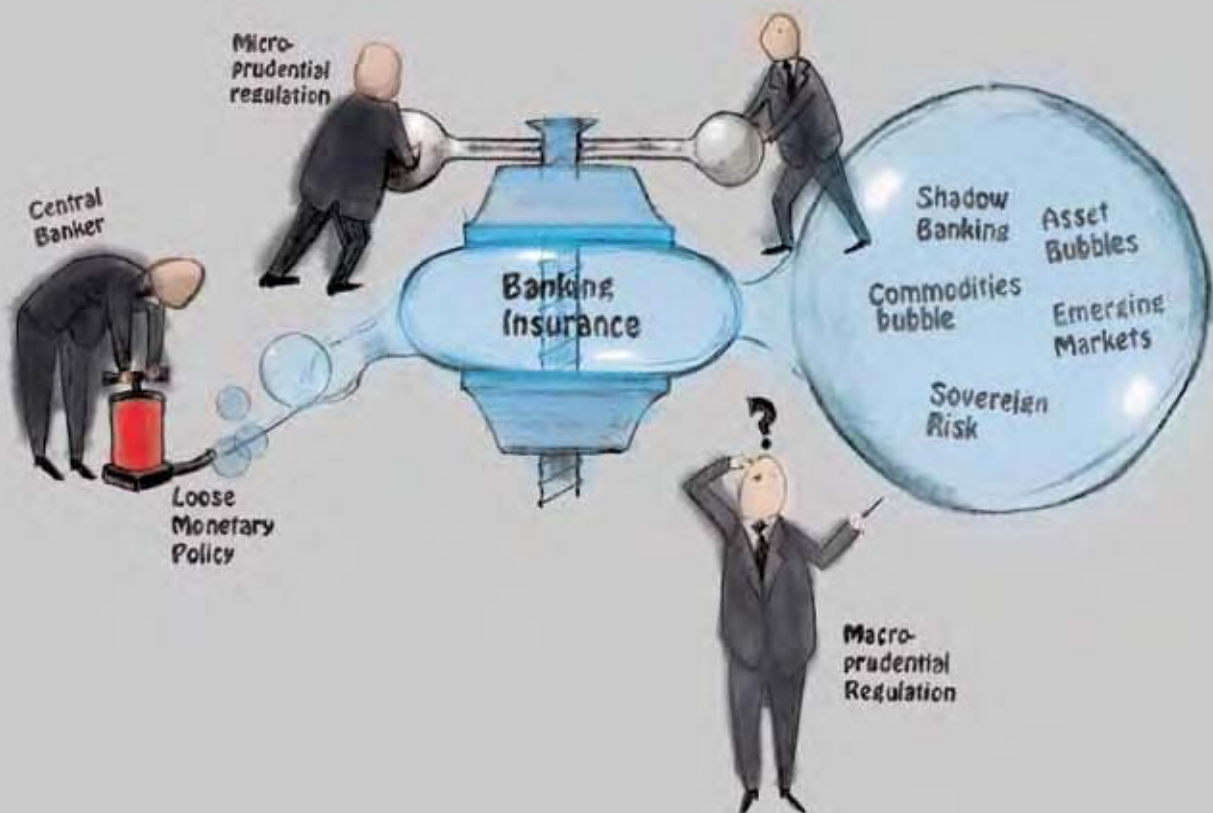


The Financial Crisis of 2015

An Avoidable History



John Banks was woken by his phone at 3am on Sunday 26th April 2015. John worked for Garland Brothers, a formerly British bank that had relocated its headquarters to Singapore in late 2011 as a result of what Garland's CEO had described as "irreconcilable differences" between the bank and the UK regulators. The last three years had been the most exciting of John's life. Having led the bank's aggressive expansion into emerging markets wholesale activities, he had recently been promoted to its executive committee.

John picked up the phone. It was the bank's legal counsel, Peter Thompson, calling. He had dramatic news. Garland Brothers, one of the world's oldest banks, would tomorrow declare bankruptcy. As he lay there in his spacious air-conditioned bedroom, unable to return to sleep, John tried to reconstruct the events of the last four years.

Planting the seeds of failure

At the beginning of 2011, the global economy was showing signs of finding a "new normal". With the exception of a few smaller troubled economies, the world had returned to positive growth, and Western stock markets had returned to their levels prior to the Lehman crisis. Banks had started lending to each other again, becoming gradually less reliant on central bank funding. Insurers had rebuilt their capital positions back to pre-crisis levels. Ireland had joined Greece in the list of peripheral Euro countries requiring a bailout, but there was a general sense that the broader contagion problems had been contained.

New bank (Basel III) and insurance (Solvency II, in Europe) regulatory regimes had been introduced and were designed to avoid a repeat of the sub-prime crisis. Banks were phasing in the new tougher controls around capital, liquidity and leverage, albeit over a relatively relaxed timeframe. The Basel Committee's impact study had estimated that the largest banks needed to raise a total of €577 BN to meet the new standards, and several banks came to market in 2011 with multi-billion Euro rights issues.

Beneath this relatively calm surface, however, trouble was brewing. Stakeholders in financial services firms wanted lower risk, but shareholders were still demanding high returns. Executives felt their institutions were holding more capital than they needed, and they were struggling to find investment opportunities that satisfied their shareholders' return requirements. Despite attempts by central banks to inject liquidity into the system, loan growth in Western economies had ground to a halt as consumers continued to deleverage and companies remained reluctant to invest, uncertain of the future interest rate, tax and regulatory environment.

The ability of banks to generate fee income by re-packaging credit books had been eliminated by punitive new securitisation rules. New consumer protection laws prevented the sale of complex derivatives to many customers. Proprietary trading by banks had been outlawed in many jurisdictions.

The talented and ambitious employees of Western banks found themselves under-utilised in an industry that was starting to resemble a utility. They needed to find new outlets for their creativity and drive.

Disappearing into the shadows

Talent began shifting into the shadow banking sector. During the low interest rate environment of 2011, investors were desperate for alternative investments with additional yield. Assets under management in the shadow banking sector grew rapidly during 2011. Asset managers were promising “inflation busting” returns but many of the strategies were based on the short-term growth prospects of the hottest markets and often employed leverage to maximise gains.

New types of specialist loan funds disintermediated the highly regulated banking sector by matching borrowers and investors directly. These funds tapped into the long-term liquidity pools of pension funds and insurance companies. Their pitch books described such investors as “advantaged holders of illiquid credit”. Lacking their own distribution channels, these funds relied on outsourced origination, either through banks or networks of “hungry” agents. Credit discipline was poor. Even at this early stage, the pattern was familiar, but regulators did not intervene. Because the asset flows were global and did not have banks at their centre, no single regulatory body felt responsible.

Go East (or South) young man!

Other restless Western banks and bankers moved, not into the shadows, but into the heat of emerging markets. In contrast to the anti-banking sentiment growing in the West, many emerging markets jurisdictions were still viewed as “banker friendly”. At the same time, growth opportunities in emerging markets had already encouraged some banks to base their growth strategies on these markets. In early 2011, several small international banks closed down their Western wholesale subsidiaries and re-located them to Singapore or Hong Kong. Garland Brothers was the first British bank to make the move, giving up its UK base when it decided to relocate its headquarters to Singapore in late 2011.

Western banks tackled the emerging markets in different ways. Those that had already established deposit and customer bases in emerging markets continued to grow organically, employing a well-tested and consistent set of risk standards across markets regardless of regulatory inconsistencies. Other Western players, such as Garland Brothers, that were struggling to find an edge, employed unorthodox techniques to build a presence in the faster growing markets. Some began to build large wholesale divisions in Asia and set up complex legal entity structures to take advantage of inconsistencies across regulatory regimes.

Sales of complex derivatives were once again producing a large proportion of many banks' income. Lacking an emerging markets deposit franchise, many of these Western banks started to fund their emerging markets lending activities via the wholesale markets or by tapping domestic funding sources in the West. Problems in the Eurozone meant that many European banks were paying 200-300bps above LIBOR for funding back home, and there were few opportunities in Europe to lend out such funds profitably. European banks found that lending to emerging markets banks and governments was one of the few ways of generating a positive margin over their rising cost of funds. This was part of a general trend among Western banks of moving down the credit spectrum to pick up yield.

Bubble creation

Based on favourable demographic trends and continued liberalisation, the growth story for emerging markets was accepted by almost everyone. However, much of the economic activity in these markets was buoyed by cheap money being pumped into the system by Western central banks. Commodities prices had acted as a sponge to soak up the excess global money supply, and commodities-rich emerging economies such as Brazil and Russia were the main beneficiaries.

High commodities prices created strong incentives for these emerging economies to launch expensive development projects to dig more commodities out of the ground, creating a massive oversupply of commodities relative to the demand coming from the real economy. In the same way that over-valued property prices in the US had allowed people to go on debt-fuelled spending sprees, the governments of commodities-rich economies started spending beyond their means. They fell into the familiar trap of borrowing from foreign investors to finance huge development projects justified by unrealistic valuations. Western banks built up large and concentrated loan exposures in these new and exciting growth markets.

The banking M&A market was turned on its head. Banks pursuing high growth strategies, particularly those focussed on lending to the booming commodities-rich economies, started to attract high market valuations and shareholder praise. In the second half of 2012 some of these banks made successful bids for some of the leading European players that had been cut down to a digestible size by the new anti-“too big to fail” regulations. The market was, once again, rewarding the riskiest strategies. Stakeholders and commentators began pressing risk-averse banks to mimic their bolder rivals.

The narrative driving the global commodities bubble assumed a continuation of the increasing demand from China, which had become the largest commodities importer in the world. Any rumours of a slowing Chinese economy sent tremors through global markets. Much now depended on continued demand growth in China and continued appreciation of commodities prices.

The bubble bursts

Western central banks pumping cheap money into the financial system was seen by many as having the dual purposes of kick-starting Western economies and pressing China to appreciate its currency. Strict capital controls initially enabled the Chinese authorities to resist pressure on their currency. Yet the dramatic rises in commodities prices resulting from loose Western monetary policies eventually caused rampant inflation in China. China was forced to raise interest rates and appreciate its currency to bring inflation under control. The Western central banks had been granted their wish of an appreciating Chinese currency but with the unwanted side effect of a slowing Chinese economy and the reduction in global demand that came with it.

Once the Chinese economy began to slow, investors quickly realised that the demand for commodities was unsustainable. Combined with the massive oversupply that had built up during the boom, this led to a collapse of commodities prices. Having borrowed to finance expensive development projects, the commodities-rich countries in Latin America and Africa and some of the world’s leading mining companies were suddenly the focus of a new debt crisis. In the same way that the sub-prime crisis led to a plethora of half-completed real estate development projects in the US, Ireland and Spain, the commodities crisis of 2013 left many expensive commodity exploration projects unfinished.

Western banks and insurers did not escape the consequences of the commodities crisis. Some, such as the Spanish banks, had built up direct exposure by financing Latin American development projects. Others, such as US insurers, had amassed indirect exposures through investments in infrastructure funds and bank debt. Inflation pressure in the US and UK during the commodities boom had forced the Bank of England and Fed to push through a series of interest rate hikes that forced many Western debtors that had been holding on since the sub-prime crisis, to finally to default on their debts. With growth in both developed and emerging markets suppressed, the world once again fell into recession.

Judgement day for sovereigns

The final phase of the crisis saw the US, UK and European debt mountains emerge as the ultimate source of global systemic risk. Long-term sovereign yields had been gradually rising during the last few years, but analysts had assumed that this was because of increasing inflationary expectations. With the advent of the new commodities lending crisis, rising sovereign yields were suddenly being attributed to the deteriorating solvency of the sovereigns. Their high debts, combined with increasing refinancing costs, made it apparent that the debt burden of many developed world sovereigns was unserviceable. It was judgement day for sovereigns.

Those sovereigns that were highly indebted and needed to roll over large amounts of short-term debt were forced to either restructure their debts or accept bailout money from other healthier sovereigns. This period, which spanned 2013 to 2015, was the single biggest rebalancing of economic and political power since World War II.

The final irony in the tale was that the large sovereign exposures that the banking system had built up as a result of the new liquidity buffer requirements left the banking system, once again, sitting on the edge of the abyss.

Our unemployed protagonist

As John ran through these facts it became clear to him that not enough had been learnt from the sub-prime crisis. Bankers had gone chasing the next rainbow only to find another pot of toxic waste rather than a pot of gold. The new wave of regulations had proved ineffective at stopping another bubble from forming. John was struggling to understand what he should have done differently. Heads would certainly roll. But who was really to blame this time around?

1. The purpose and structure of this report

The sub-prime crisis of 2007 will not be the last financial sector crisis. Even during the relative calm of the last 25 years, we witnessed the property crises of the early 90s, the Asia currency crisis, the LTCM/Russia crisis and a number of other smaller emerging markets-led financial crises. We are due another crisis soon.

Financial services executives and regulators have worked hard to design a safer and more stable financial system, but we will not know whether they have succeeded until it is tested by the next crisis. The first aim of our 2015 crisis scenario is to stress test the design of the new financial system, to consider how well it would stand up to this type of adverse scenario.

The broader aim of the report is to encourage readers to think about the future financial system using several scenarios rather than basing decisions on a single predicted course of events. Shell Oil, guided by Arie de Geus¹, was a pioneer in using scenario planning in the 1980s. De Geus claimed that the main purpose of using scenarios was to “think the unthinkable” and claimed that scenarios were “vastly superior in dealing with the future than predictions”. Strategists who focus on a single path of future events, he claimed, tend to filter out news that does not fit their view of the world. Companies with a single strategy or plan are “virtually blind” to new information.

Our scenario is not a prediction. Our aim in describing it is to show that current efforts underway to create a better system should not be taken as an assurance that the system is now safe from future crises. Other plausible scenarios may show the same thing, though potentially with different strategic implications. We encourage you to use several such adverse scenarios in your planning, tailoring them to the risks facing your institution.

The rest of this report is structured as follows. Section 2 presents supporting evidence for our scenario, showing that it is not as unlikely as we might hope. Then, in Section 3, we review some of the measures regulators and financial institutions are taking to limit the probability and severity of future crises and, based on lessons from our 2015 crisis scenario, we make some suggestions about what they could do differently.

¹ See *The Living Company* by Arie de Geus, Harvard Business Press, 1997

2. How plausible is our 2015 crisis scenario?

In our scenario, the crisis has three principal drivers: the resurgence of shadow banking, the formation of emerging market asset bubbles and sovereign debt restructurings in developed markets. Below, we consider the likelihood of these three events.

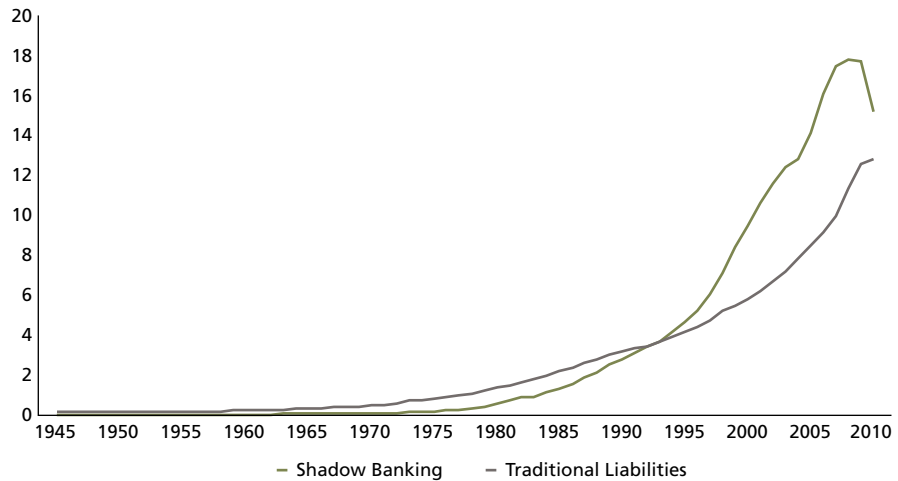
2.1. The resurgence of shadow banking

Definition of shadow banking

By “shadow banking” we refer to credit intermediation, maturity transformation and liquidity transformation that takes place outside of the deposit-taking institutions that have access to central bank liquidity and whose depositors receive government guarantees (or deposit insurance). Money market mutual funds, structured investment vehicles, credit hedge funds, asset-backed commercial paper conduits and securities lenders are all, therefore, parts of the shadow banking system, though not the whole of it.

Since the 1980s, shadow banking has grown even more rapidly than the official banking sector (see Exhibit 1). This growth has been caused in part by the real economic advantages of some shadow banking activities in matching the needs of investors and borrowers through product innovation. However, it has also been driven by “regulatory arbitrage”: that is, by the desire to hide leverage outside of the official banking sector, especially to avoid regulatory capital requirements. As can be seen in Exhibit 1, the liabilities of the shadow banking sector dropped rapidly during the recent crisis, showing that the official banking system was by comparison a safe place to keep your money.

Exhibit 1: Shadow Bank Liabilities vs. Traditional Bank Liabilities (US\$ TN)



Source: Flow of Funds Accounts of the United States as of 2010:Q1 (FRB) and FRBNY

The connections between shadow banking and the official banking sector

When these off-balance sheet activities ran into trouble during the recent crisis, many banks were forced to bring the troubled assets back onto their balance sheets, in some cases to protect their reputations in the bond markets.

In theory, the shadow banking system did not enjoy the same implicit support that is offered by governments to the banking system which is the main reason it has escaped the same level of regulatory scrutiny. However, given its scale and its connections with the official banking sector, governments could not allow many parts of the shadow banking sector to fail during the crisis. The AIG bailout and government support for money market funds that had promised never to “break the buck” are cases in point.

Regulatory response

The response from policy makers has been to increase the strictness of regulation for shadow banking. For example, the European Union recently approved a new Directive on Alternative Fund Managers which introduces official capital and reporting requirements.

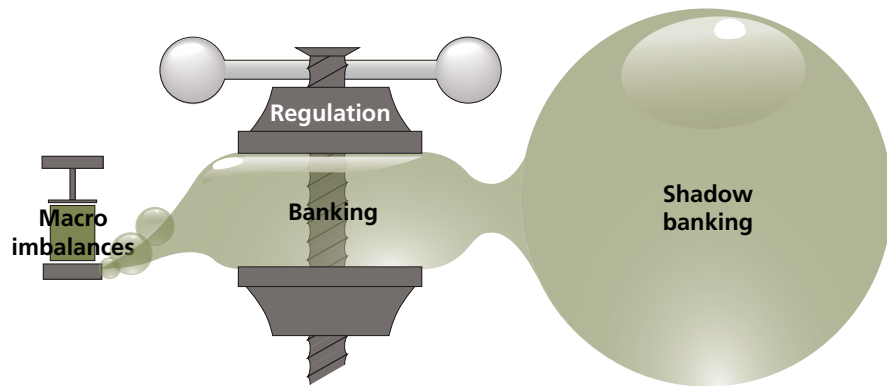
These regulations may constrain risk-taking at alternative fund managers, and other regulations may similarly constrain other known types of shadow banks. But shadow banking is a remarkably dynamic and opaque industry, and we are sceptical about the ability of regulators to control the quantity of risk it takes on. In a game of cat and mouse between regulators and shadow bankers, the mice will

win. There are far more mice; they are typically better informed and better motivated than the cats; and the extraordinary complexity of modern financial products and the global scope of the industry give the mice a nearly limitless supply of nooks and crannies to hide in.

Squeezing the balloon

The regulatory trend of coming down hard on the banks will increase the amount of risk in the shadow banking sector. The fundamental macro imbalances² that are driving up levels of risk in the financial system will not be addressed by any of the new regulations. The only question is where these risks will go. Squeezing them out of the more transparent and manageable banking system could prove to be a mistake.

Exhibit 2: The regulatory squeeze on banking



Given the tendency of financial institutions to manage their risks by partially placing them in the shadow banking sector, there is also a strong possibility that the interconnectedness between the two systems will increase as the new rules create even greater incentives for regulatory arbitrage. Short of any reduction in the actual risks, and contrary to the instincts of vote-seeking politicians, the best way to avoid another bubble may be to loosen the regulatory vice on the banks.

² For example, the trade imbalances between the US and China have actually grown during the crisis rather than having been diffused

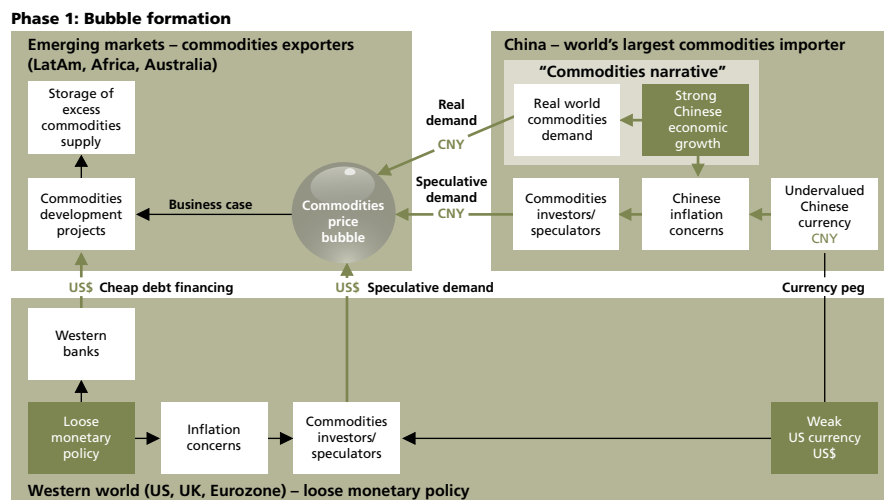
2.2. Emerging markets asset bubbles

In a study of emerging markets crises for the IMF in 1999³, Graciela Kaminski observed that such crises tended to be “preceded by an explosion of international lending to emerging markets at very low real interest rates” and that the crises later erupted “as the industrialised countries engaged in extremely tight monetary policies”. In other words, emerging markets’ asset bubbles, and their bursting, are to a great extent effects of Western monetary policy. She then notes that the sudden “switch to contractionary monetary policy provoked a sharp rise in real interest rates, profound recessions in industrial countries, and plummeting commodity prices.”

Our scenario builds on these historical observations and has a commodity price bubble at its centre. The fallout from such an emerging markets crisis could be even more severe than in previous crises, with the biggest losers coming from the developed world. Western monetary policy is looser than ever, so the bubble could be unprecedented in size. And the high levels of indebtedness in developed economies means that they are in no position to absorb a rapid monetary tightening without experiencing a massive rise in insolvencies, including perhaps the insolvency of several developed world sovereigns.

Below we outline in more detail the two phases of our scenario. Phase 1 describes the “bubble formation” while Phase 2 describes the “bursting of the bubble”.

Exhibit 3: Phase 1 – Bubble formation



3 Currency and Banking Crises: The Early Warnings of Distress, Graciela Kaminsky, IMF Institute, 1999

During phase 1 we distinguish between two sources of demand affecting commodities prices: demand for use in the production of other goods (“real” demand) and demand for the purpose of price speculation (“speculative” demand). There are three major groups of players in our scenario. Firstly, there are economies, such as Latin America, Africa, Russia, Canada and Australia, which are the largest commodities producers. Secondly, there is China, which is now the world’s largest commodity importer. Thirdly, there are the developed world economies, such as the US, which are pumping liquidity into the financial system through their loose monetary policies.

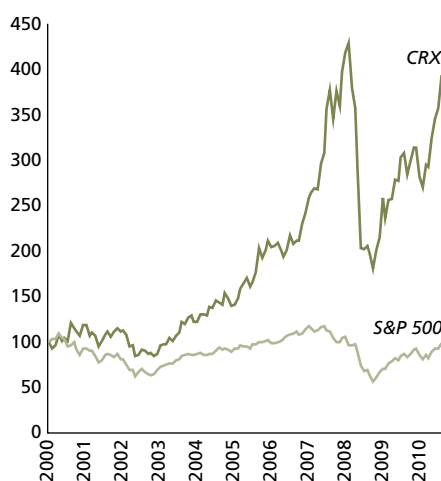
As with any bubble, our scenario contains a compelling narrative that allows investors to convince themselves that “this time is different”. In this case it is a story of strong economic growth coming from China creating a sustainable increase in demand for commodities.

However, it is already apparent that increasing commodities prices are also creating inflationary pressure in China, which is exacerbated by China holding its currency artificially low by effectively pegging it to the US dollar. This makes commodities look like an attractive hedge against inflation for Chinese investors. The loose monetary policy in developed markets is similarly making commodities look attractive for Western investors. This “commodities rush” is demonstrated in the right-hand chart below, which shows the asset allocations of European and Asian investors. A recent investor survey by Barclays also found that 76% of investors predicted an even bigger inflow into commodities in 2011.

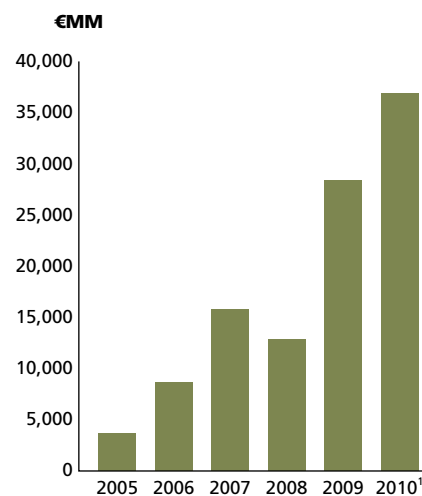
Exhibit 4: The Commodities Rush

CRX index vs. S&P 500 (Market value of equity of commodity-related companies)

Index: 2005-05-31 = 100



European and Asian mutual fund investments in commodities

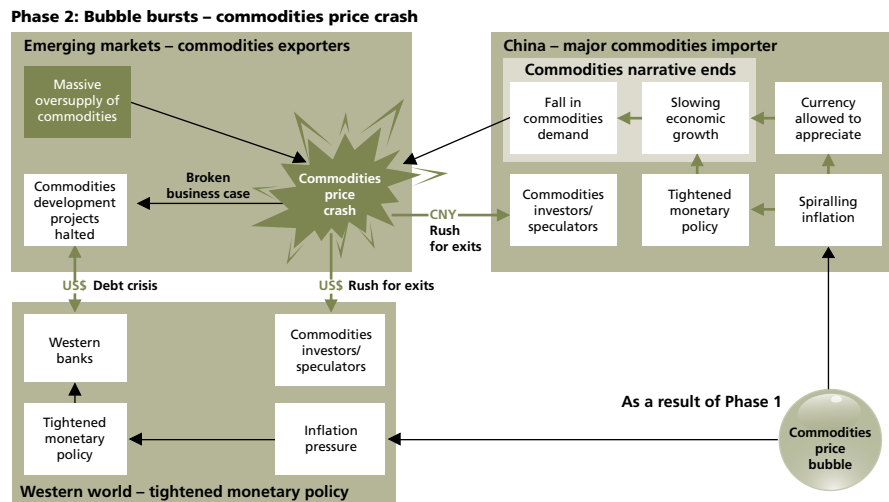


1. Based on Q3 data
Source: Bloomberg, FERI, Oliver Wyman analysis

Based on the currently inflated commodity prices, commodity producers in countries such as Brazil and Russia have clear business cases for investing in projects to dig more commodities out of the ground. As competition to launch such projects increases, the costs of completing them also starts to rise, with the owners of mining equipment and labourers capitalising on the increased demand by charging higher rates. Because a portion of the demand for the projects is not coming from the real economy, an excess supply of mining capacity and commodities will be created.

As with previous asset bubbles, we expect much of the debt financing for these projects to come from banks. And much of this bank financing is likely to be supplied by Western banks that are eager to preserve their diminishing return-on-equity and need to find lending opportunities that are sufficiently lucrative to cover their own increasing cost of funds. The balance sheets of life insurers will play a supporting role here, as insurers look for long-term investments that can match their liabilities and seek to earn additional illiquidity premia.

Exhibit 5: Phase 2 – Bubble bursts: commodities price crash



Whatever bursts the bubble, it will involve investors coming to doubt that the real demand for commodities is sustainable. For example, further trouble in the Eurozone or political instability in the Middle East or Asia could lead to concerns about global growth prospects and burst the bubble. In our scenario, we have made the “prick” a tightening of monetary policy in China in response to inflationary pressure caused by China’s hot economy and rising commodities prices. Once China’s currency appreciates and its economy slows, it will become clear that the commodities narrative is over optimistic.

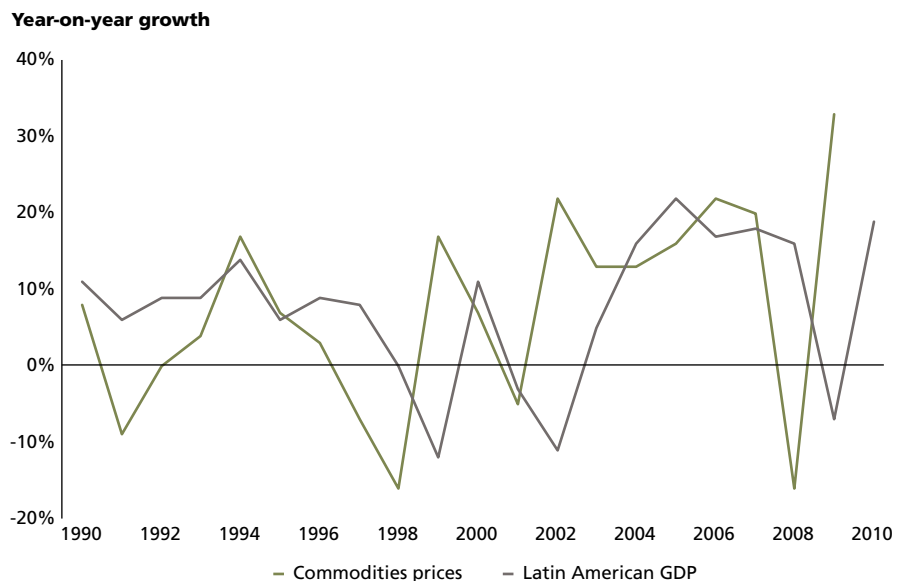
At the first sign of trouble, the speculative investors will head for the exits, causing commodities prices to crash. Many development projects will be abandoned before completion. The parallels with the recent real estate development crisis are clear. Developed markets' banks that lent to the developers will suffer large losses. The ensuing pressures on emerging market debt will also be felt by insurers that operate in these countries and invest a large proportion of their assets in local sovereign debt.

How big could the losses be?

Recent disclosures from mining companies and economies that export commodities suggest that several hundred billion dollars will be invested in commodities exploration projects in the coming years. Losses from a commodities debt crisis could therefore be on a similar scale to the \$400 BN of direct losses that stemmed from the sub-prime crisis. However, the IMF now estimates that the combined direct and indirect losses stemming from the sub-prime crisis are more like \$4 TN (a factor of 10 larger). Should we expect a similar multiplier effect in a commodities crisis?

There are reasons to think so. Commodities prices are correlated with the broader economic growth of economies that are big commodities producers. The chart below demonstrates this for Latin America:

Exhibit 6: Correlation between commodities prices and Latin American GDP



Source: IMF commodities price and GDP data; Oliver Wyman analysis

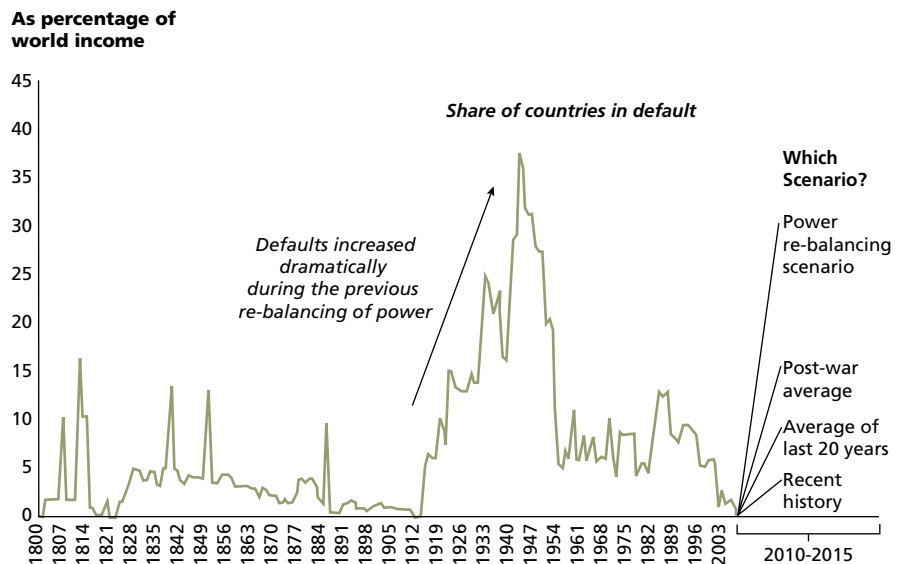
It is likely then that the prices of other asset classes in these economies, such as real estate, will rise and fall with commodities prices. We should expect significant additional losses for those who own these other asset classes, and for their financiers.

2.3. Sovereign debt crisis

The next part of our scenario brings the 2015 crisis home to the Western sovereigns. A commodities crash driven by a bank-led financing boom would cause more problems for Western banks and, as with any price crash, create deflationary pressure. A return to worldwide recession would be a strong possibility.

Do Western sovereigns have the debt servicing capacity to absorb another recession? In our scenario, they do not and the next step is the debt restructuring of some of the world's leading sovereigns. Is there any historical precedence for such a dramatic sovereign default scenario? Alas, the answer is "yes". The chart below is based on data compiled by the economic historians Carmen Reinhart and Kenneth Rogoff. It shows that while sovereign defaults in recent history have been contained to a few small countries, the longer term history of sovereign defaults is very different.

Exhibit 7: Historical sovereign default/restructuring events



Source: Reinhart, Carmen M and Rogoff, Kenneth S; *This Time is Different: Eight Centuries of Financial Folly*. ©2009 Princeton university Press. Reprinted by permission of Princeton university; Oliver Wyman analysis

Based on our analysis of this data, we think it makes sense to consider four scenarios for how sovereign risk might evolve during the period of our story (2011-15):

Scenario severity (sovereigns in default or restructuring as a percentage of world GDP)	Example scenario¹
Benign case Recent history continues 1-2%	Default events limited to very minor economies such as Iceland
Base case Average from last 20 years 3-4%	Defaults limited to smaller Eurozone economies (e.g. Ireland, Greece and Portugal) and the occasional emerging market sovereign
Bad case Return to post-war average 8-10%	Some of the bigger names in the Eurozone caught in the contagion. China's slowing economy causes instability and sovereign problems in the Asia Pacific region
Worst case Global power re-balancing 20% +	Doubts about the ability of the world's most indebted economies (US, UK, Japan and Eurozone) to service their debt causes a global sovereign debt crisis

1. The countries named in our examples are intended merely to give examples of the types of countries that might get caught if default rates rise to the levels specified in our four scenarios. In reality, if default rates rise to, say, 10%, the exact list of countries that would make up that 10% is difficult to predict; the reader should not attach too much weight to the names used in our example.

Benign case

Over the last decade, sovereign default and restructurings have been restricted to a few small countries, such as Iceland. Our most benign scenario is therefore to assume that future default and restructuring events continue to be limited to the smallest players on the global scene.

Base case

Our base case assumes that sovereign default rates revert to the average default rate observed over the last 20 years. The peripheral nations of the Eurozone would be candidates for inclusion in this scenario, and external shocks such as our commodities crisis could see some of the larger emerging economies such as Brazil and Russia involved in the problems. If the external shock comes from something other than commodities then the countries involved could be very different.

Bad case

A worse scenario would see default rates rise up to their post-war average. Under this scenario we might see problems in the Eurozone spread to some of the bigger countries, such as Spain. The network of exposures that exist between the Eurozone banks and sovereigns could see some of the other larger Eurozone countries dragged down and survival of the Euro currency in its current form brought into question. Alternative scenarios of this magnitude might see a slowing

Chinese economy or rising food prices lead to political instability which could destabilise the Asia Pacific region. There are many other political hotspots, including problems in the Middle East or the Korean peninsula, which could be the driver of future sovereign problems as either civil unrest or war takes hold.

Worst case

Our worst-case scenario assumes that default rates move back up to their historical peak based on the 200 years of data in the Reinhart & Rogoff chart. This would represent the culmination of trends that amount to a complete global rebalancing of economic power: most likely from the US and European economies to the emerging markets. From this perspective, the sub-prime crisis was merely the start of a period of economic instability engendered by this realignment.

One way of interpreting the historical data in the chart is that the transfer of power from the British Empire to the United States in the first half of the 20th century caused a period of global instability that ultimately led to the default of some of the world's largest economies. Only when the US emerged as the dominant economic and military power at the end of WWII did the world enter a new period of economic stability. In 1940 the British pound still accounted for two-thirds of foreign currency reserves but by 1945 the US dollar had become the global reserve currency.

We attach only a small probability to this severe version of a global rebalancing scenario given that many of the historical defaults in the early 20th century example were caused by massive wartime spending combined with the destruction of a large proportion of the world's economic production capabilities. In addition, there is no clear alternative to the US dollar as a reserve currency now that the Euro has lost its luster (and it feels a little early, in our view, to be talking about a Renminbi reserve currency).

Optimists might argue that the G20 will avoid the chaos in our more adverse scenarios by resolving the global economic imbalances through negotiation and careful management of the process. However, the recent history of Greece and Ireland has shown that a nation needs to be on its knees before it is willing to make these types of concessions.

3. What financial institutions and regulators might learn from our pessimistic scenario

The purpose of considering pessimistic scenarios, such as ours, is not simply to depress readers. Our scenario is designed to “stress” the new financial and regulatory system and uncover the weaknesses that remain. In this section, based on these findings, we suggest some possible changes in course for regulators and for those running financial institutions.

3.1. Ideas for regulators

Prepare for crises

Our scenario should remind regulators that they cannot succeed in creating a risk-free financial system and that future crises will occur. William Shakespeare noted that there is a “tide in the affairs of men” and we believe that any attempt to eliminate this natural tide is neither achievable nor desirable. Regulators should encourage banks and insurers to put as much effort into preparing for adverse events as into modelling their probability. Many efforts have been focused on the areas of contingency planning and resolution regimes but much more can be done.

Do not force risk out of sight

Removing risk from the regulated banking sector sometimes merely shifts it into the shadow banking sector, where it is harder for supervisors to monitor and contain (see section 2.1 above). A financial system in which more risk stays in the traditional or regulated sector may be safer altogether. Regulators should avoid squeezing too hard, especially given that a shadow banking crisis will almost certainly precipitate failures in the regulated sector.

Focus on scenario analysis and stress testing

Many of the most successful initiatives that regulators have launched recently have incorporated the use of stress testing and scenario analysis to help financial institutions understand how much capital they need to guard against future crisis events⁴. These approaches are a useful complement to the internal models that currently lie at the heart of financial regulation. We recommend that regulators take these exercises further and make them a regular part of the supervisory process.

In addition to requiring banks and insurers to run stress tests, regulators should run scenarios to stress test their entire financial system. As much as policymakers might reassure the public that it will never happen, we would hope that behind closed doors European regulators have, for example, assessed what might happen to their financial system in the event of a break-up of the Eurozone. Like financial institutions, regulators should have clear contingency plans for dealing with such scenarios.

Follow the money

Another lesson from our scenario is that a financial crisis tends to be preceded by a period of excessive profit generation. When trying to identify risks, regulators should ask which businesses and investment strategies are currently contributing most to the earnings growth of financial institutions. There were notable examples from the previous crisis where off-balance sheet SIV vehicles were at times generating much of the profits of some large international banks.

Although we do not recommend regulators trying to micro-manage financial institutions business decisions, one suggestion is that any lines of business that are generating “super profits” should receive additional attention from regulators. It may turn out that the next generation of super-profitable businesses have manageable risks, but we would not bet on it.

⁴ The Fed, CEBS and the UK FSA have all implemented successful bank stress testing exercises during the last few years and, in all three cases, the results of the exercises helped to identify vulnerable areas in the system and led to additional capital raising efforts by the banks

Remove subsidies

The scale of the damage caused by the recent crisis created an understandable backlash against financial services and even raised questions about the merits of free markets. We believe that financial institutions should continue to play a key role in ensuring the efficient allocation of capital and that the global economy will continue to benefit from the free flow of trade and capital.

The most common source of “market failure” is governmental distortion of prices, usually by way of taxes or subsidies. In the financial markets, the most obvious such distortion arises from the implicit government support for bank creditors. This effectively subsidises bank risk-taking by reducing the risk premia on banks’ debt funding. Requiring banks to hold more and higher quality capital should help to counteract the risk subsidy, and “living wills” and other measures aimed at imposing losses on debt holders may help to eliminate the subsidy.

However, regulators should also address the other sources of price distortion in markets that financial institutions operate in. These can cover very diverse areas of public policy ranging from tax incentives to housing policy to the existence of government-backed lending institutions. A broader definition of price distortion might also include the effects of quantitative easing and the expansion of central bank repo facilities. As our scenario reminds us, such price distortions can cause bubbles to form and changes in them can be a source of future risk.

We recommend that financial regulators work to understand how market distortions might be perverting incentives and behaviour in their financial markets and to work with other policy makers to eliminate them or, at least, to mitigate their impact.

3.2. Ideas for Financial institutions

Let your risk capabilities shape your strategy

It is often said that a financial institution’s risk capabilities should be better used to support business activities. We would go a step further. Risk management is (or, at least, should be) what financial institutions do well. Your risk capabilities should not merely support your business activities but should drive your business strategy. If you are trying to decide which markets to operate in, the first question you should ask is whether you have the right risk management

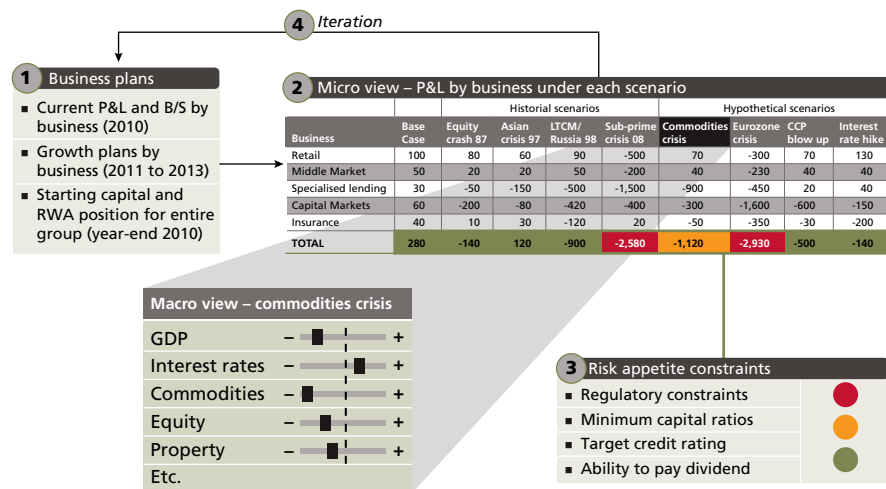
capabilities to understand and manage the risks they present. The same thinking can be extended to other functional capabilities, such as your infrastructure and systems. Are you using these capabilities to support, align or drive your business strategy? Our scenario highlights the dangers of entering new markets where you lack the capabilities required to back up your strategy.

Plan with scenarios

While working for Shell in the 1980s, Arie de Geus was a pioneer in scenario-based planning. His approach built on the company's engineering heritage. Any engineer who builds a new bridge will "stress" its design. Can the bridge withstand unusually heavy traffic? Can it withstand heavy lateral wind? What happens if we try twisting the bridge? Similarly, Shell began analysing its business plans under various possible external conditions.

Most financial institutions have something they would describe as a "scenario-based planning" process, but it is a million miles away from what Arie de Geus had in mind. They typically begin with a base case forecast from which they then construct some alternative scenarios. However, the thought put into the scenarios often amounts to little more than "let's move revenues and costs up and down by 20% and see what happens". Shell's approach was, and still is, to invest a great deal of effort into the articulation of alternative scenarios and then to force senior managers to engage in a thorough discussion and analysis of the scenarios as they apply to each business line. An illustration of how this might work for a financial institution is shown below.

Exhibit 8: Scenario-based planning framework



Our commodities crisis scenario might be one of many adverse scenarios to consider in such a framework. Another might be a “CCP blow up” now that vast volumes of derivatives exposures will be concentrated within these centrally cleared counterparties. Some companies also include unusually benign scenarios to ensure they all understand the full spectrum of opportunities during planning discussions.

A more substantive scenario planning process would include the following:

1. Each business unit submits its business plans and growth ambitions
2. These plans are stressed using the various scenarios (note: it is vital that the risk factor shocks used in the scenarios are set independently of the business, incorporating the views of risk management)
3. A number of criteria are checked to see whether the scenario combined with the business plans breaches the bank’s risk appetite statement
4. If the risk appetite is breached then the businesses must iterate their plans until the plans are consistent with the company’s risk appetite statement

Only a handful of financial institutions have anything close to these scenario capabilities, either in terms of generating scenarios or using them for planning. The true test of the integration of scenario analysis into the planning process is the extent to which businesses modify their growth plans as a result of the scenario outputs.

The example above focuses on the quantitative aspects of scenario analysis but de Geus’ framework also encouraged senior management to engage in a qualitative discussion of each scenario. A budgeting process generally leads to a “consensus view” of the world where individual opinions are lost. Scenario-based discussions allow people to explore and develop individual opinions and to drill down into areas of the business that might otherwise remain hidden.

Such an approach would elevate the status of risk managers that have the ability to think laterally rather than the previous tendency to value most highly those with the greatest quant skills. The narrower a risk manager’s focus, the more likely they are to get sidelined and miss out on the important discussions that shape the future of the company. Any process that creates a closer working relationship between risk managers and business people would be, in our view, a good thing.

Diversify in a new way

The textbook concept of diversification usually involves spreading your bets across multiple assets, asset classes or markets. One of the lessons from our crisis scenario is that, in a globally connected world, the risks in different geographical markets may actually be highly correlated. The sub-prime crisis, in particular, showed that credit assets across the entire globe can simultaneously drop in value.

An alternative way for financial institutions to create diversification is to find revenue sources that are either insensitive to the economic cycle or are driven by sources of risk other than credit. These could include investing in less cyclical businesses, such as payment systems or for insurers, underwriting-driven products. Other ideas might include developing retirement solutions for our ageing populations which would contain a new set of risks that are uncorrelated to credit and equity risks. Given the low expected loan growth in developed markets, such diversification may be necessary not only to avoid future downside but to grow at all.

Lead rather than follow

Our scenario includes two phases of herd behaviour. The first involves investors trying to squeeze into an already overcrowded market; the second occurs when the same investors simultaneously rush for the exits. It is the actions taken during this first phase that will determine exposure to a crisis. Options during the second phase are severely limited.

In the build up to the sub-prime crisis bank balance sheets became more and more homogenous with all banks basically betting on the same set of risks. Most banks jumped on the structured credit bandwagon in one form or another, regardless of whether they had any expertise or other advantage to bring to this market. Insurers followed the banking “herd”, taking an investment grade credit rating as an article of faith and building up large positions in “high quality” structured credit for relatively small improvements in yield. We are now seeing a similar type of herd behaviour as banks rush into emerging markets.

The alternative to herd behaviour is leadership. By this we mean leading your own organisation down a path that is right for it based on its ability to manage certain types of risks. This is easier said than done. Once the herd starts running towards the new Promised Land, only the strongest leaders can stand firm against criticism that they are falling behind the pack.

Follow the money

As we highlight in the regulatory section above, bubbles are highly correlated with super profits. Focussing additional board and executive attention on extraordinary growth areas will help to prevent the situation we experienced in the last crises where many in senior roles did not fully understand the risks that accompanied the extraordinary sources of profits at the time.

Be patient

While our scenario paints a picture of doom and gloom, we should remember that two of the greatest banking dynasties in history, Rothschild and JP Morgan, emerged from the crises of 1815 and 1907 respectively. A conservative strategy that allows you to operate as a safe haven in a storm can guarantee your future and provide many opportunities to take actions from a position of strength.

It is also interesting to compare the timing of RBS's acquisition of ABN Amro to Barclays' takeover of Lehman Brothers. No level of operational or management savvy can fix the problem of having overpaid for an asset. But the rewards can be great for those who pounce when the time is right which often means waiting for a bubble to burst. Such opportunities are, however, reserved for those that have resisted the temptation to take too much risk during the boom period.

Accept that the world has changed

All stakeholders in financial institutions must understand that their world has changed. The last couple of decades of constantly falling interest rates is over; customer demographics are shifting; regulations are tightening. Trying to replay the successful strategies of the past 25 years will not work.

Highlighting the difficulty of accepting this change, many bank executives have stated that their number one priority is "RoE preservation" in the face of these new challenges. However, they need to understand that with higher capital requirements, the returns of the past are unsustainable. It is vital that bank shareholders also understand this if we are to avoid the irresponsible risk taking that might otherwise result. More dialogue is required between shareholders and executives to agree realistic targets for the next five years.

Conclusion

The financial crisis of 2008 shook politicians, bankers, regulators, commentators and ordinary citizens out of the complacency created by the 25 year “great moderation”. Yet, for all the rhetoric around a new financial order, and all the improvements made, many of the old risks remain. The basic regulatory framework – of bank debtor guarantees and regulatory bank capital and liquidity minima (that is, of risk subsidies and compensatory risk taxes) – has been maintained with tweaked parameters. And, within this system, bank shareholders, bondholders and executives still have incentives that might herd them towards excessive risk taking. The crisis scenario described at the beginning of this report can be seen as a continuation, after a breathing space provided by taxpayer-funded bailouts, of the 2008 crisis.

Of course, events will not unfold precisely as described in our scenario. But the observable fragilities in the global economy suggest that it would take little to create a renewed crisis. Our purpose is not to promote defeatism, but a sense of urgency. As argued above, regulators should put less effort into holding the lid down on banks and more into addressing the financial market distortions that fuel the pressure under the lid. And bankers should use scenario analysis to take an honest look at the risks to which their strategies expose them and their institutions’ ability to manage them.

We called our story an “avoidable history”. Unfortunately, future crises are not avoidable, but being a victim of the next one is.

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