

Chapter 2. The roots of a crisis

By way of introduction...

The events of 2008 have already passed into history, but they still have the power to take our breath away. Over a matter of months, a succession of earthquakes struck the world's financial system – the sort of events that might normally happen only once in a century.

In reality, the warning signs were already there in 2007, when severe pressure began building in the subprime securities market. Then, in March 2008, the investment bank and brokerage Bear Stearns collapsed. More was to come. Early in September, the United States government announced it was taking control of Fannie Mae and Freddie Mac, two huge entities that underpin mortgage lending in the U.S. Then, in the middle of that month, came news of the collapse of investment bank Lehman Brothers. A fixture on Wall Street, Lehman had been a home to the sort of traders and dealers that novelist Tom Wolfe once dubbed “masters of the universe”. Around the same time, another of Wall Street's legends, Merrill Lynch, avoided Lehman's fate only by selling itself to the Bank of America.

It wasn't just investment banks that found themselves in trouble. The biggest insurer in the U.S., American Insurance Group, teetered on the brink of failure thanks to bad bets it had made on insuring complex financial securities. It survived only after billions of dollars of bailouts from Washington.

How did the stock markets react? In New York, the Dow Jones Index fell 777 points on 29 September, its biggest-ever one-day points fall. That was a mirror of wider fears that the world's financial system was on the brink of meltdown. The mood was summed up on the cover of *The Economist*, not usually given to panic, which depicted a man standing on the edge of a crumbling cliff accompanied by the headline, “World on the edge”.

What happened? Why was the world financial system plunged apparently so suddenly into what many feared at the time would become a crisis to rival the Great Depression? This chapter looks at the pressure that built up in global finance in the years before the crisis struck, and the ways in which new approaches to banking greatly amplified those pressures.

The dam breaks

So, what were the roots of this crisis? One way of answering that question is in terms of a metaphor – an overflowing dam.

The water in the dam was a **global liquidity bubble** – or easy access to cheap borrowing. This resulted from low interest rates in key economies like Japan and the United States and what amounted to huge support for U.S. finances from China. This idea of a supply of easy money might seem rather abstract, but it had a real impact on everyday life. For example, low inflation helped by the huge supply of goods coming out of Asia, low U.S. interest rates and Asian investment in U.S. Treasury securities made mortgages cheap, encouraging buyers to get into the market and so fuelling a bubble in house prices. Other assets, like shares, also rose to levels that were going to be hard to sustain over the long term.

With a real dam, channels might be dug to ease the pressure of water. In the financial world, however, the channels that were created only contributed to the problems. These channels were poor regulation, which created incentives for money-making activities that were dangerous and not always well understood. The result was that banks and other financial institutions suffered huge losses on financial gambles that wiped out their capital.

While the problems had been brewing for years, it was only in September 2008 that the full scale of the looming crisis entered the public's consciousness. Subsequently, the crisis moved far beyond Wall Street and affected economies around the world.

But, to go back to basics, why did the liquidity bubble form – why did the water build up behind the dam? And what happened to regulation that allowed banks to make such dangerous mistakes?

Water in the dam: What caused the liquidity bubble?

Asset price bubbles are not rare in human history. As far back as the 17th century, the Dutch were gripped by “tulip mania,” when speculation in tulip bulbs sent prices soaring – according to one estimate, at the height of the mania the price of some bulbs exceeded \$100,000 in present-day values. In the 1920s, share prices soared in New York in the run-up to the 1929 Wall Street Crash. Over the next three or four years, they lost almost nine-tenths of their value. It would take until the middle of the 1950s for New York-listed shares to return to their pre-1929 levels. More recently, the “dotcom bubble” of the late 1990s and early 2000s saw a huge run up in the price of Internet-related shares before they, too, came back down to earth.

By leading to cuts in U.S. interest rates, the crash that followed the dotcom bubble helped lay the ground for today's problems. Let's look in greater detail at how that happened, and at two other factors that helped lead to the build up of water – or credit – behind the dam.

Low U.S. interest rates: Following the collapse of the dotcom bubble, the U.S. Federal Reserve sharply cut interest rates to stimulate the economy. Low interest rates encourage businesses and consumers to borrow, which boosts spending and, thus, economic activity and jobs. A combination of strong jobs growth, low rates and policies to encourage zero-equity loans helped drive house prices higher but also made home loans more available to lower income households.

Low Japanese interest rates: Japan's central bank set interest rates at 0% in 2001 as the country sought to secure its economic recovery following the “lost” decade of the 1990s. Such low rates made yen borrowings very cheap, and led to the emergence of the so-called yen carry trade. In basic terms, this meant borrowing yen (at interest rates of virtually 0%) and then buying much higher yielding assets, such as U.S. bonds. This had the effect of pumping money into any financial system where potential returns were higher.

The impact of China and sovereign wealth funds: In recent decades China has become an export powerhouse, manufacturing and selling huge quantities of goods overseas but importing and buying much less. The result is a large surplus, much of which is recycled to the U.S. Because China chooses to manage its exchange rate, these flows mean that the central bank carries out much of the recycling by accumulating foreign exchange reserves, which are typically invested in U.S. Treasury securities. China is now the biggest investor in these securities, but it is not alone: Many Middle Eastern and East Asian countries, including China, operate Sovereign Wealth Funds, which invest national wealth, often overseas. As oil prices boomed in 2007, the value of some of these funds grew greatly, which added yet more liquidity to the emerging global bubble.

Dangerous channels: Mounting insecurities

So, the world economy was awash with easy credit, leading to a big run up in the price of assets such as houses and shares – in effect, a bubble emerged and, like all bubbles, the day would come when it had to burst. That's serious enough, but what made the problem even worse was a failure to adequately regulate the ways banks and financial institutions managed these flows of cheap credit.

One of the most serious issues was an increase in home loans to people with weak credit records – so-called subprime mortgages – which was encouraged by public policy, for example with the so-called American Dream legislation (see below). It was attractive to financial institutions to buy these mortgages, package them into mortgage securities and then, with the revenue from the up-front fee banked, to pass the risk on to someone else. There were important tax advantages to brokers in this process and it contributed to the explosive growth of the credit default swap market (problems in which played a large role in the spread of the crisis between financial institutions).

Subprime borrowing

Getting a mortgage used to involve going through a lengthy inspection process, but in recent years that has changed in a number of countries, most notably in the United States. Providing borrowers were willing to pay a higher rate, they could always find someone to give them a mortgage. This included people with weak “credit scores,” which are based on an individual's track record in borrowing. A good credit score means a borrower qualifies for a relatively low – or “prime” – interest rate. A bad score means the borrower must pay a higher – or “subprime” – rate. A solid, proven income used to matter, too, but that also changed. Instead, borrowers could take a “stated income” mortgage (or “liar's loan”), where they stated how much they were earning in the expectation that nobody would check up on them. Another feature of home lending was adjustable-rate mortgages, or “teaser loans,” which attracted borrowers with an initial low rate that would then rise, often quite sharply, after just a few years. Many borrowers, however, reckoned that house prices would rise faster than their loan rates, meaning they could still sell the house for a profit. For lenders, too, the dangers seemed manageable: They got upfront fees from arranging mortgages, and could disperse the risk of loan defaults through mortgage securitisation.

This process of **mortgage securitisation** played a key role in helping to create the crisis, so it's worth looking in a little more detail at how the process works: A mortgage provides a bank with the promise of future cash flow over a long period of years as the mortgage borrower pays back the loan on his or her home. However, the bank may not want to wait that long, and may opt for a quicker return by creating a **security**, or specifically, a **residential mortgage backed security**, or RMBS. In simple terms, a security is a contract that can be bought and sold and which gives the holder a stake in a financial asset. When a bank turns a mortgage into a security and then sells it, the purchaser is buying the right to receive that steady cash flow from those mortgage repayments. This purchaser is most often a special purpose vehicle (SPV) that sells notes of different quality to buy-and-hold investors (like pension funds). The bank, meanwhile, is getting quick fee revenue for doing the deal, and may or may not have obligations to the SPV in the future (depending on contractual details).

However, things can go wrong: If the mortgage holder can no longer make his or her payments, the promised cash flow won't materialise for the holder of security. Of course, the house could then be repossessed and sold, but if property prices have started to fall the sale price may not be sufficient to cover the size of the mortgage. Because home lending became more widespread over the past decade (for reasons we'll look at in more detail below), the risk of mortgage default grew. Many of the securities became “toxic” to banks that kept commitments to them. Banks became cautious about lending to each other, because it was not clear how big the losses on these securities might be, and

whether or not it was “safe” to be using other institutions as counterparties in interbank and swap markets, so fuelling the credit crunch.

What is an asset-backed security?

The financial crisis unleashed some financial terms not normally heard beyond the walls of Wall Street brokerages into daily conversation. For example, **ABS**, or asset-backed security: If you understood mortgage securitisation, then you’ll easily understand an ABS: It’s a security based on a pool of assets, such as mortgage or credit-card debt, that will yield a future cash flow. Some ABSs are even more exotic: In 1997, the rock star David Bowie created “Bowie Bonds,” which gave holders rights to receive income from future royalty payments on his recordings.

A brave new world of banking

Why did banks create these securities, and why did they invest in them with what – in retrospect – looks like recklessness? The answers to these questions are complex and often quite technical, but to a large extent they lie in new approaches to regulation that allowed or effectively encouraged banks to change the ways they did their business.

To understand why, we need to know how banks work. In very simple terms, when you put money into your account you are effectively lending money to your bank, in return for which the bank pays you interest. (Because you can ask for it back at any time, the money you deposit is considered as part of the bank’s **liabilities**.) Your money doesn’t just sit in the bank: It will be lent to other people, who will pay higher interest rates on their loans than the bank is paying to you. (Because such loans will eventually be paid back to the bank, they are considered as part of the bank’s **assets**.) So, your money flows through your bank as if through swing-doors – in one side and straight out the other.

But what happens if you want your money back? By law, the bank must have a financial cushion it can draw on if it needs to. This is capital or equity, or the money that shareholders or investors put into the bank to set it up in the first place (it sits on the liabilities side of a bank’s balance sheet). Traditionally, the need for a bank to adhere to a **capital adequacy requirement** – or a minimum share of capital as a proportion of its loans – limited how much it could lend and, thus, its growth. Banks were thus usually conservative businesses – investors who bought bank shares expected to hold onto them for a long time, enjoying small but consistent dividends rather than a rapid price rise.

In the 1990s, this approach changed. Many banks began increasingly to focus on growth, both for their businesses and for their share prices – and the way they were regulated increasingly allowed them to do so. Instead of focusing mainly on earning revenue from the **spread**, or difference, between what a bank pays its depositors and what borrowers pay to the bank, banks increasingly relied on **trading income**, which is money earned from buying and selling financial instruments, and fees from mortgage securitisation.

This new approach changed the timeframe over which banks expected to earn their money – rather than waiting patiently over the years for interest payments on loans, they increasingly sought “upfront” returns, or quick payments, from fees and from selling financial products. The way banks paid their staff reflected this new focus: The size of bonuses grew in relation to fixed salaries and they were increasingly based on an executive’s ability to generate upfront income. Staff were also offered shares and share options, which meant it was in their interest to drive up the share price of the bank by generating quick earnings.

These innovative approaches to banking – relying increasingly on securitisation and on capital market sales – were pursued most avidly by **investment banks**, a class of banks that serves mainly the needs of the corporate world by raising capital, trading securities and assisting in takeovers and acquisitions. In Europe, many regular banks also have investment banking arms. In the United States, there had long been a division in banking, a legacy of the Great Depression. That split was designed in

part to prevent contagion risks between high-risk securities businesses, insurance and commercial banking. For instance, if an investment bank organised a share sale by a company that subsequently ran into trouble, its commercial arm might feel compelled to lend to the company, even if such a loan didn't make great financial sense. In the 1990s, the barriers began to fall, most notably with the repeal of the Depression-era Glass-Steagall act in 1999. The result was that the appetite for risk-taking spread more widely in U.S. banking conglomerates, which ultimately led some of them and their European counterparts to get into severe difficulties.

Making the most of capital

We saw earlier that there are limits on how much a bank can lend – in very basic terms the size of its lending is limited by the size of its capital, although the way in which this capital adequacy requirement is calculated under the so-called Basel capital rules is technical and complex (for instance, riskier loans must be matched by more capital). In recent years, however, banks have been able to do more lending without an equivalent expansion in the size of their capital bases. Two developments allowed this to happen:

The emergence of “originate-to-distribute” banking: The idea behind “originate-to-distribute” banking is fairly straightforward, although the means used to put it into practice can be complicated. In simple terms, it means that a bank makes (or “originates”) loans, and then find ways to get them off its books (to “distribute” them) so that it can make more loans without breaking its capital requirements.

One way to do this was through the securitisation of mortgages and placement of them in SPV's like **structured investment vehicles** – or SIVs – and collateralised debt obligations, or CDOs (see box). SIVs were entities created by banks that borrowed cheap in the short-term to fund assets that were of a longer-term duration. The SIVs made their money from the spread – or gap – between the cost of their short-term borrowing and the return from the longer-term holdings. Provided the bank did not provide letters of credit and other such facilities of a year or more, these would not be subject to Basel capital rules.

The main downside was this: SIVs constantly had to persuade lenders to continue giving them short-term loans. As the credit crunch hit, these lenders became ever more cautious, and interest rates on such short-term borrowings rose. SIVs also saw falls in the value of their long-term mortgage-backed securities as it became increasingly clear that many of these were built in part on bad loans. So, SIVs were left facing big losses, and it was the banks that created them that were left with the bill for cleaning up the mess.

What is a CDO?

CDOs, or collateralised debt obligations, are a complex investment security built on a pool of underlying assets, such as mortgage-backed securities. Crucially, each CDO is sliced up and sold in “tranches” that pay different interest rates. The safest tranche, usually given a rating of AAA, pays the lowest rate of interest; riskier tranches, rated BBB or less, pay a higher interest rate – in effect, the bigger the risk you're willing to take the bigger your return. CDOs blew up during the subprime crisis because some of these risky tranches were subsequently packaged up into new CDOs, which were then sliced up into tranches, including “safe” AAA tranches. As mortgage defaults grew, even cautious investors who thought they were making a safe AAA investment found they were left with nothing or almost nothing. If you'd like to know more about what went wrong with CDOs, Paddy Hirsch of Marketplace on American public radio has an informative and entertaining explanation here: <http://marketplace.publicradio.org/display/web/2008/10/03/cdo/>.

The switch from Basel I to Basel II: The size of banks' minimum capital requirements are governed by an international agreement, the 1988 Basel Accord (or "Basel I"). As banking and finance evolved throughout the 1990s and into this century, the need was seen for a new agreement, which led to the publication of proposals for a new "Basel II" accord in 2004.

These accords are highly technical, and their impact on the development of banking practices – as well as their role in fuelling the crisis – is still a matter of debate. Nevertheless, two points are worth noting. Firstly, Basel II effectively regards routine mortgage lending as less risky than its processor did, which allows banks to issue more mortgages without affecting their capital adequacy requirements. Secondly, and as a consequence of this, it made sense for banks in the transition from Basel I to Basel II to move existing mortgages off their balance sheets through methods such as mortgage securitisation; they would then be able to take early advantage of the new and more attractive arrangements for mortgage lending laid out in Basel II.

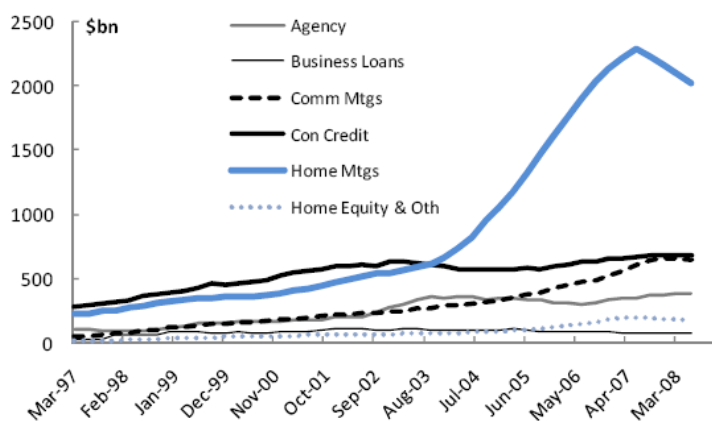
Making the Most of Tax

Another great attraction of the securitisation model has been the ability to take advantage of opportunities in different tax regimes that apply to buy-and-hold investors on the one hand and to brokers on the other in respect of income and capital gains. Use of insurance via credit default swaps (CDS) and offshore locations for SPVs allowed tax-based returns to financial firms that couldn't be used properly by the investors. This is because the capital gains tax in some jurisdictions is low relative to income tax, and the company tax rate is higher. In a sense, by choosing low-quality mortgage based securities, losses could be optimised to everyone's advantage—provided a global financial crisis didn't cause liquidity to dry up. As the solvency crisis spread, CDS obligations became one of the key mechanisms for spreading the crisis between banks and insurance companies like AIG.

Why did it happen when it happened?

Many of the trends described so far in this chapter have been a fact of financial life for some years, so it's tempting to wonder not only why, but also when, matters came to a head. Media coverage often dates the start of the crisis to the tumult of September 2008. But the cracks in the financial system had begun showing well before then – even in early 2007 it was clear that many holders of subprime mortgages would not be able to repay them.

RESIDENTIAL MORTGAGE-BACKED SECURITIES VERSUS OTHER SECURITISED ASSETS



As the chart shows, there was a veritable explosion in the issuing of residential mortgage backed securities from 2004.

Source: "The Current Financial Crisis: Causes and Policy Issues".

But rather than wonder when exactly the crisis began, it may be more useful to ask when the factors that led to the crisis really started to come together. The answer to that is 2004. As the chart shows, that year was marked by a something close to an explosion in the issuing of residential mortgage-backed securities – a process that ultimately pumped toxic debt deep into the world’s financial system and that governments and banks have since struggled to clean up. So, what happened in 2004? The following events were key:

New U.S. policies to encourage home ownership: Enacted the previous year, the Bush Administration’s “American Dream” home-owning policies came into force. Their aim was to help poorer Americans to afford a down-payment on a home. While the policy had good intentions, critics argue that it encouraged many Americans to step on to the property ladder even when there was little hope they could go on making their mortgage payments.

Changes to Fannie Mae and Freddie Mac rules: The United States has a number of “government-sponsored enterprises” that are designed to ensure the availability of mortgages, especially for poorer families. The two best known are Fannie Mae and Freddie Mac, which buy and securitize mortgages from lenders such as banks, so freeing banks to provide more home loans. In 2004, the federal government imposed new controls on Fannie Mae and Freddie Mac, which opened the way for banks to move onto their patches. Such a move was probably inevitable: Banks and other mortgage firms faced a loss of revenue if they could no longer pass on mortgages to Fannie Mae and Freddie Mac. Their response was to create Fannie and Freddie lookalikes through SIVs, which had the affect of shifting a large quantity of the American mortgage pool from the federal to the private sector.

Publication of Basel II proposals: As discussed above, this effectively encouraged banks to speed up mortgage securitisation.

Changes to rules on investment banks: Finally, 2004 also saw a change in how the Securities and Exchange Commission, or SEC, which regulates the securities business in the United States, supervised investment banks. In return for an agreement from the larger investment banks to let the SEC oversee almost all their activities, the SEC allowed them to greatly reduce their capital requirements, which freed up even more funding to pump into areas such as mortgage securitisation. That move allowed investment banks to go from a theoretical limit of \$15 of debt for every dollar in assets, to up \$40 for every dollar.

And on to the real world...

What began as a financial crisis quickly morphed into a crisis in the real economy. Beginning in late 2008, global trade began to go into freefall, jobs were lost and economic growth rates plummeted, with countries around the world slumping into recession. In the next chapter we trace how that slowdown spread through the real economy and affected the lives of millions of people around the world.

This chapter draws heavily from “The Current Financial Crisis: Causes and Policy Issues,” by Adrian Blundell-Wignall, Paul Atkinson and Se Hoon Lee, and from “The Sub-prime Crisis: Causal Distortions and Regulatory Reform,” by Adrian Blundell-Wignall and Paul Atkinson (see References for publishing details).

References

- Blundell-Wignall, Adrian, Paul Atkinson and Se Hoon Lee, "The Current Financial Crisis: Causes and Policy Issues", *OECD Journal: Financial Market Trends*, Vol. 2008/2.
doi: 10.1787/fmt-v2008-art10-en
- Blundell-Wignall, A. and P. Atkinson (2008), "The Subprime Crisis: Causal Distortions and Regulatory Reform", in *Lessons from the Financial Turmoil of 2007 and 2008*, proceedings of a conference held at the H.C. Coombs Centre for Financial Studies, Kirribilli, on 14-15 July 2008, Reserve Bank of Australia, Canberra; available at www.rba.gov.au/PublicationsAndResearch/Conferences/2008/Blundell-Wignall_Atkinson.pdf.
- Choudhry, M. (2007), *Bank Asset and Liability Management*, John Wiley & Sons, Hoboken, N.J.
- Cooper, G. (2008), *The Origin of Financial Crises*, Harriman House Publishing, Petersfield, Hampshire
- Labaton, S. (2008), "Agency's '04 Rule Let Banks Pile Up New Debt", 3 October, *The New York Times*, New York, N.Y.
- Morgenson, G. (2007), "Shaky Loans Haunt Mortgages, And Investors, As Crisis Looms", 11 March, *International Herald Tribune*, New York Times Co., New York.
- Morgenson, G. (2008), "U.S. Lenders' Attitude: Don't Ask, Don't Tell", 6 April, *International Herald Tribune*, New York Times Co., New York.
- Menschel, R. (2002), *Markets, Mobs, and Mayhem: A Modern Look at the Madness of Crowds*, John Wiley & Sons, Hoboken, N.J.
- OECD (2009), *The Financial Crisis: Reform and Exit Strategies*, OECD Publishing, Paris.
doi: 10.1787/9789264073036-en
- Wolf, M. (2009), *Fixing Global Finance*, Yale University Press, New Haven.