Chapter 7
The 2008-? Financial Crisis

Causes

- The crisis had multiple causes
  - The years before the crisis saw a flood of mortgage lending in America. Loans were doled out to "subprime" borrowers with poor credit histories who struggled to repay them. These risky mortgages were passed on to financial engineers at the big banks, who turned them into supposedly low-risk securities by putting large numbers of them together in pools. Pooling works when the risks of each loan are uncorrelated. The big banks argued that the property markets in different American cities would rise and fall independently of one another. But this proved wrong. Starting in 2006, America suffered a nationwide house-price slump.

Causes

- The pooled mortgages were used to back securities known as collateralized debt obligations (CDOs), which were sliced into tranches by degree of exposure to default. Investors bought the safer tranches because they trusted the triple-A credit ratings assigned by agencies such as Moody's and Standard & Poor's. The agencies were paid by the banks that created the CDOs. They were far too generous in their assessments of them.
- Some accuse the Fed of keeping short-term rates too low, pulling longer term mortgage rates down with them. The Fed's defenders shift the blame to the savings glut - the surfeit of saving over investment in emerging economies, especially China. That capital flooded into safe American-government bonds, driving down interest rates.

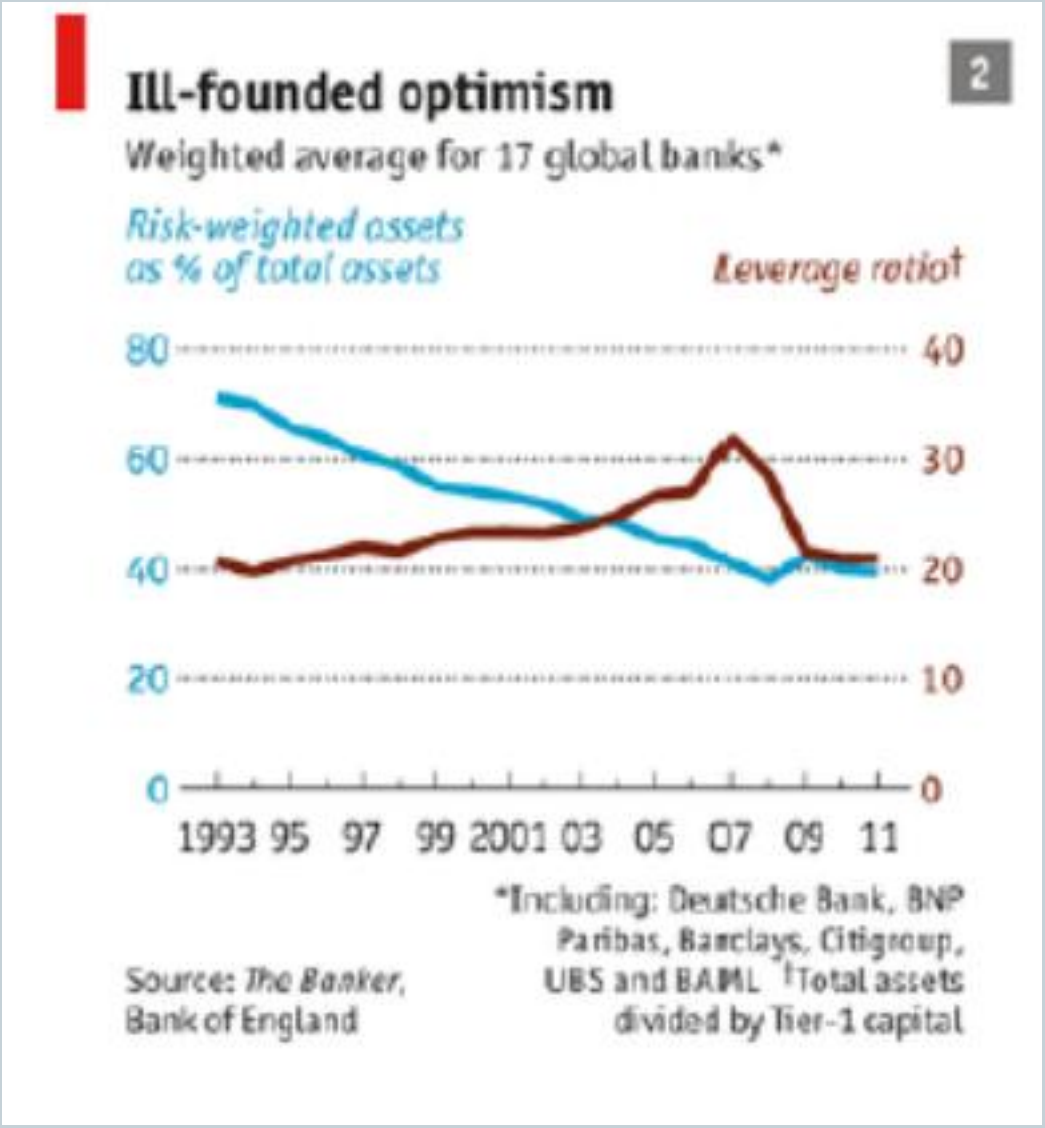
Causes

- Low interest rates made it profitable for banks, hedge funds and other investors to borrow and use the extra cash to amplify their investments. The low volatility of the Great Moderation increased the temptation to "leverage" in this way.
- When America's housing market turned, mortgage-backed securities slumped in value. Supposedly safe CDOs turned out to be worthless, despite the ratings agencies' seal of approval. It became difficult to sell suspect assets at almost any price, or to use them as collateral for the short-term funding that so many banks relied on. Fire-sale prices, in turn, instantly dented banks' capital thanks to "mark-to-market" accounting rules, which required them to revalue their assets at current prices and thus acknowledge losses on paper that might never actually be incurred.

Causes

- Trust, began to dissolve in 2007—a year before Lehman's bankruptcy—as banks started questioning the viability of their counterparties. They began to withhold short-term credit, causing those most reliant on it to founder. Northern Rock, a British mortgage lender, was an early casualty in the autumn of 2007. Complex chains of debt between counterparties were vulnerable to just one link breaking. Financial instruments such as credit default swaps (in which the seller agrees to compensate the buyer if a third party defaults on a loan) that were meant to spread risk turned out to concentrate it. AIG, an American insurance giant buckled within days of the Lehman bankruptcy under the weight of the expansive credit-risk protection it had sold.

Causes


Ill-founded optimism
2
Weighted average for 17 global banks*
Risk-weighted assets as % of total assets
Leverage ratio†
80
60
40
20
0
40
30
20
10
0
1993 95 97 99 2001 03 05 07 09 11
*Including: Deutsche Bank, BNP Paribas, Barclays, Citigroup, UBS and BAML †Total assets divided by Tier-1 capital
Source: The Banker, Bank of England

Causes

- After Lehman Brothers' bankrupt suddenly, nobody trusted anybody, so nobody would lend. Nonfinancial companies, unable to rely on being able to borrow to pay suppliers or workers, froze spending in order to hoard cash, causing a seizure in the real economy.
- European banks bought lots of dodgy American securities, financing their purchases in large part by borrowing from American money-market funds. Moreover, Europe had its own internal imbalances. Southern European economies racked up huge current account deficits in the first decade of the euro while countries in northern Europe ran offsetting surpluses. The imbalances were financed by credit flows from the euro-zone core to the overheated housing markets of countries like Spain and Ireland.

Causes

- The euro crisis has in this respect been a continuation of the financial crisis by other means, as markets have agonized over the weaknesses of European banks loaded with bad debts following property busts.
- Central banks could have done more to address all this. The Fed made no attempt to stem the housing bubble. The European Central Bank did nothing to restrain the credit surge on the periphery, believing (wrongly) that current-account imbalances did not matter in a monetary union.

Causes

- Central bankers insist that it would have been difficult to temper the housing and credit boom through higher interest rates. Perhaps so, but they had other regulatory tools at their disposal, such as lowering maximum loan-to-value ratios for mortgages, or demanding that banks should set aside more capital.
- Lax capital ratios proved the biggest shortcoming. Since 1988 a committee of central bankers and supervisors meeting in Basel has negotiated international rules for the minimum amount of capital banks must hold relative to their assets.

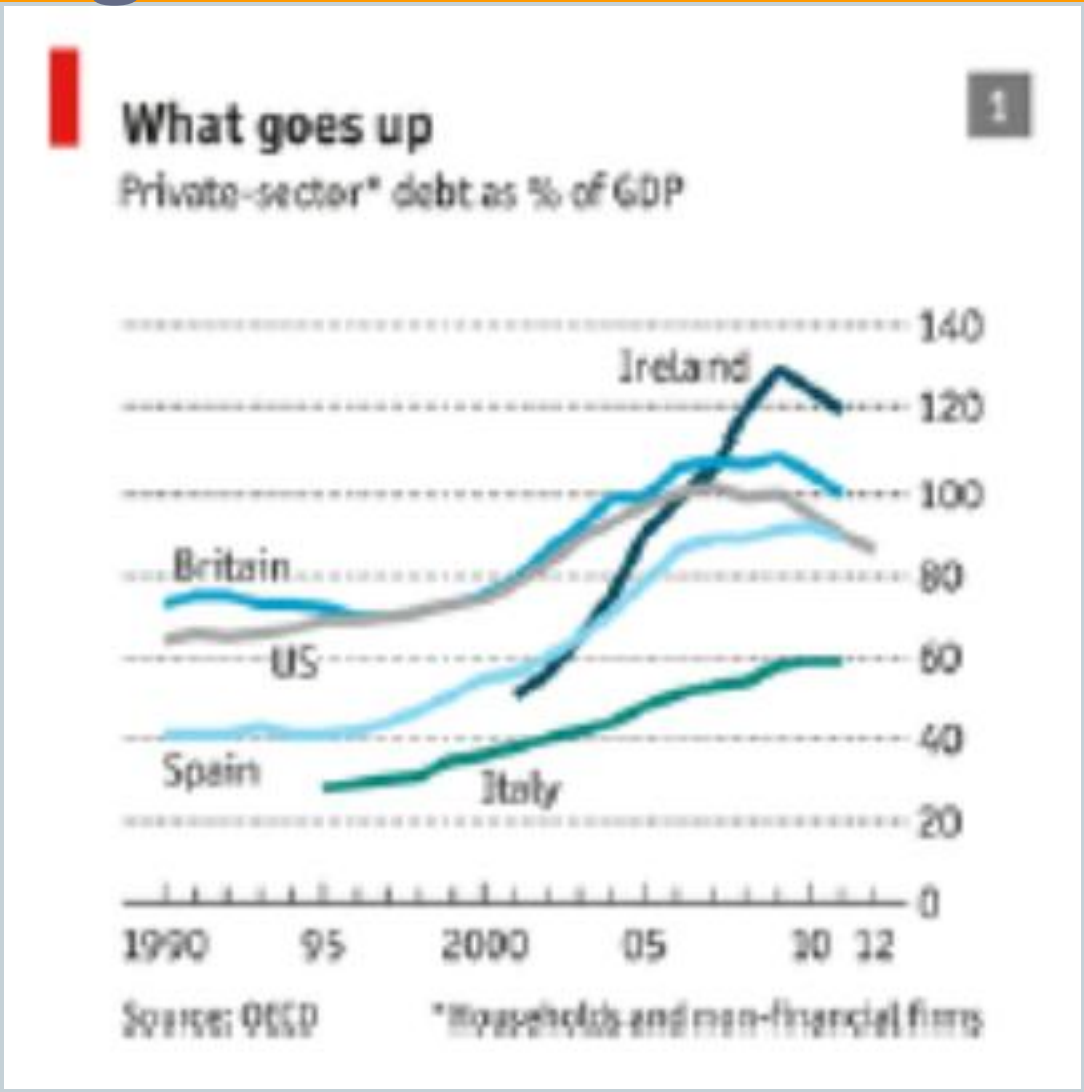
Causes

- But these rules did not define capital and risk-free assets strictly enough. And from the mid-1990s they were allowed more and more to use their own internal models to assess risk—in effect setting their own capital requirements. Predictably, they judged their assets to be ever safer, allowing balance sheets to balloon without a commensurate rise in capital
- The Basel committee also did not make any rules regarding the share of a bank's assets that should be liquid. And it failed to set up a mechanism to allow a big international bank to go bust without causing the rest of the system to seize up.

The dangers of debt

- The origins of the 2008 financial crisis lay in private-sector liabilities, especially mortgages, which account for a big part of household debt (see figure), and massive borrowing by the banks.
- Much of what companies, households and governments owe, they owe to banks and other financial firms, which extend loans and also buy securities. These financial firms, in turn, owe a lot of money themselves: to their depositors, their bondholders and a variety of other “lenders to the lenders”.

The dangers of debt



The dangers of debt

- The debts of financial companies often dwarf the debts of governments, households and non-financial firms. According to the OECD, Luxembourg's financial sector had debts worth over 4,900% of the country's GDP in 2011. The figures are also striking in other countries with prominent financial sectors, such as Ireland (where financial-sector debt amounted to 1,434% of GDP) and Britain (837%).
- When firms or households hold a lot of debt, even a small fall in the value of their assets can bring them to the brink of bankruptcy. The steep fall in asset prices during the crisis caused severe losses: many families found their homes were worth less than their mortgages, while financial institutions that had borrowed heavily to invest found that their losses exceeded their equity.

The dangers of debt

- The purchase of an asset, such as a home, will help push up the market price of that asset. Other homeowners will then become more willing to take on debt (because they feel wealthier) and more able to do so (because their home's value as collateral has risen). In the years before the crisis, the net worth of American households continued to rise despite their accumulation of debt, because their home and other assets appreciated even faster. Borrowing to buy assets thus has a self-reinforcing effect: one person's purchase makes another's borrowing both more desirable and feasible. Eventually the financial cycle peaks. Borrowers realize they do not have the income required to service further debt.

The dangers of debt

- At that point the cycle goes into reverse: as asset prices fall, collateral constraints tighten, squeezing borrowing, which results in further falls in prices. Unfortunately, one thing does not fall: the size of the debts that households and firms have incurred.
- Households and firms will respond by "deleveraging". They can do this in three ways: by defaulting, by selling assets or by spending less than they earn (and using the proceeds to repay debt).

The dangers of debt

- Although deleveraging helps repair household and corporate finances, at the level of the economy as a whole it can make things worse. Since one person's outlay is another person's income, depressed spending will hurt incomes, resulting in a "balance-sheet recession". The economic weakness caused by debt can thus make debt even harder to bear, a trap that Irving Fisher, a Depression-era economist, called "debt deflation".
- The deleveraging of the financial sector can be particularly deep, quick and nasty. Deep because banks are highly "leveraged". Quick because those liabilities are typically of shorter maturity than their assets, giving banks little time to put their balance-sheets in order. Nasty because the process hurts their rivals and their customers alike.

The dangers of debt

- In 2007 and 2008 fire sales of securities by investment banks and other dealers depressed their prices, devaluing the portfolios of other banks with similar assets. Banks and other lenders also started calling in loans or at least withholding new ones, inflicting a credit crunch on the broader economy.
- To fight this recession the central bank can cut interest rates, easing debt-servicing costs for borrowers and discouraging saving by the thrifty. The Federal Reserve cut its policy rate from 5.25% in the summer of 2007 to 0-0.25% in December 2008 and the Bank of England followed suit. In addition, the government can spend more than it collects in taxes, so that the private sector can earn more than it spends.

The dangers of debt

- These Keynesian policies and big financial rescues then led to a surge in government debt. That, in turn, raised fears about the solvency of various countries in the euro area, culminating in Greece's default in 2012.

Monetary policy

- Central bankers have good control of short term interest rates. Before the financial crisis they rose it when inflation was threatening, and they lowered it when unemployment was increasing. This was sufficient to stabilize the economy.
- The recession that accompanied the credit crunch in the autumn of 2008 delivered a massive blow to demand. In response central banks in the rich world slashed their benchmark interest rates. By early 2009 many were close to zero. Even so, growth remained elusive.
- Hence, central banks turned to unconventional monetary tools.

Monetary policy

- Unconventional policy falls into two categories: asset purchases and "forward guidance". Asset purchases are a natural extension of central banks' typical activities. America's Federal Reserve, for instance, has long bought Treasury bills and other bonds with short maturities to increase the money supply and reduce short-term interest rates. After its benchmark rate fell close to zero the Fed began buying longer-term securities, including ten-year Treasury bonds and mortgage-backed securities, to bring down long-run borrowing costs.

Monetary policy

- Printing money to buy assets is known as "quantitative easing" (QE) because central banks often announce purchase plans in terms of a desired increase in the quantity of bank reserves.
- When a central bank buys bonds from investors with newly created money, it boosts asset prices and depress interest rates of longer maturities. Cheaper borrowing, in turn, prods businesses and households to invest. QE can stimulate the economy via a fiscal effect, too: lower interest rates reduce government borrowing costs and so lower expected future taxation. And QE also helps shape expectations of inflation. A central bank announcing a new, higher inflation target might use QE to convince markets it will meet it.

Monetary policy

- Forward guidance is an attempt to boost the economy by signaling central banks' future policies more clearly. In early 2009 the Fed said its interest rate was likely to remain low for "an extended period". In December 2012 the Fed adjusted its communications again. It announced that rates would stay low until the unemployment rate had fallen to at least 6.5%, as long as short-run expectations of inflation were no more than 2.5%.

Monetary policy

- A promise to tolerate higher inflation in the future, if believed, can stimulate economic activity in the present, just as the threat of higher prices due to an expanded money supply does. By the same token, a promise to hold short-term rates low for a long time should reduce long-term rates too, since long-term rates are typically compounded short-term rates along with a premium to allow for rising inflation and other risks.

Public debt

- Before the crisis most economists believed that fiscal stimulus was an obsolete relic. Monetary policy seemed wholly capable of taming the business cycle. When crisis struck in 2008, however, that consensus evaporated.
- By early 2009 most central banks had reduced their main interest rates almost to zero, without the desired result. Also this year many countries rolled out big packages of tax cuts and extra spending in the hope of buoying growth. This stimulus mounted to 2% of GDP on average among the members of the G20 club of big economies.
- From 2007 to 2010 rich countries saw the ratio of their gross sovereign debt to GDP spike from 74% to 101% on average.

Public debt

- Stimulus was not the main reason public debt piled up: the biggest drag on public finances came from lower tax receipts, thanks to weak profits and high unemployment. Financial bail-outs added to the fiscal toll, as did "automatic stabilizers"—measures like unemployment benefits that automatically raise spending and support demand when recession strikes.
- In a "balance-sheet recession", with indebted households forced by falling asset prices to pay off loans quickly, a boost to incomes from a fiscal stimulus would speed the financial adjustment, and thus generate a faster recovery.

Public debt

- The other question was how much debt rich governments could take on without harming the economy. Worries about a country's solvency will lead creditors to demand higher interest rates, which will then compound its fiscal woes.
- Carmen Reinhart and Kenneth Rogoff published a much-cited and criticized paper claiming that economic growth rates slow sharply when government debt tops 90% of GDP.
- The Keynesians asserted, multipliers are much higher during big downturns than at other times. Research by Lawrence Christiano, Martin Eichenbaum and Sergio Rebelo suggests that when interest rates are near zero the multiplier could be higher than two. A financial crisis also elevates multipliers, other studies found.

Public debt

- Recent evaluations by the IMF suggest that the multiplier on spending cuts was perhaps twice what researchers had originally assumed. Spanish austerity reduced the government's structural deficit by more than two percentage points from 2011 to 2012. But cuts helped push the economy into recession. Net government borrowing actually rose.
- The moment to turn to austerity, ideally, is when the economy can bear it. Not all governments have that luxury, of course: Greece's, for one, could not delay fierce cuts since it could no longer borrow enough to finance its deficits.

Public debt

- Those with more breathing space should aim to stabilize their debts in the long run, the IMF suggests, by laying out plans to reduce their deficits. The more credible their plans, the more leeway they will have to depart from them should conditions warrant it. As Keynes insisted, the time for austerity is the boom not the bust

Banking supervision

- The main regulatory responses to excessive leverage are
  1. A revision of international banking regulations. Basel III, as the latest version is known, is more stringent than its predecessors on four basic measures of safety: it requires banks to hold more equity and liquid assets, to leverage themselves less (the maximum ratio is now 33) and to rely less on short-term funding.
  2. The most radical option is to carve up lenders deemed "too big to fail". Splitting them into smaller and simpler banks would make oversight easier, and prevent a bankruptcy from upending the local economy or the government's finances. But unravelling and reapportioning assets and liabilities might be impossibly tricky

Banking supervision

3. An alternative is to ban banks from the riskiest activities. In America, a rule proposed by Paul Volcker, a former head of the Federal Reserve, will soon prevent deposit-taking banks from engaging in "proprietary trading" (investing in stocks, bonds and derivatives using its customers' money). In theory, the "Volcker rule" will shield deposits from traders' losses. In practice, it is difficult to distinguish between trading conducted with a view to serving customers and that done solely for the bank's benefit.

Banking supervision

4. Regulators in Europe have proposed "ring-fences" that will separate customer deposits from banks' other liabilities. Against them, banks would only be allowed to hold assets like cash, government bonds and loans to individuals and firms. Activities deemed riskier, such as trading in shares and derivatives and underwriting companies' bond issuance, would sit outside the ring-fence, backed by a separate stash of capital.

But banks will still grant mortgages. That is a risky business. British commercial-property lending has represented over 20% of GDP at its peak. It is also volatile: commercial-property prices fell by almost 45% between 2007 and 2009. None of this risk would be outside the ring-fence, or blocked by the Volcker rule.

Banking supervision

5. That is one reason some argue that banks should hold significantly more equity than the new rules require. Yet it is also true that without leverage to boost returns, banks might need to squeeze more from their assets: the cost of credit could rise.
6. Some economists think a better balance between equity and debt can be struck by using funding that has some of the attributes of both. They want banks to sell more "contingent capital" to investors: IOUs act like bonds in normal times, paying a return and requiring full payback when they mature. But in bad times they change from debt into loss-absorbing equity. This should encourage big bank's creditors (insurers and pension funds) to provide more oversight.

Banking supervision

7. Banks' borrowing costs are distorted. Since investors assume the biggest ones will be bailed out in times of crisis, they accept relatively low rates of interest on the bonds they issue. That, in turn, distorts the banks' decisions: the cheapness of large bank funding encourage them to rise their leverage. A solution would be for the agency that insures bank deposits to act the following way. When a bank big enough to threaten the entire financial system fails, regulators will take control, replacing a bank's managers and doling out losses to bondholders as well as equity investors. This threat will make managers react by holding enough capital and liquid assets to keep banks out of trouble. Yet some banks remain too sprawling and opaque to liquidate in an orderly manner and too big to let fail.

After the crisis

- There exist a lot of studies of past crisis by Kaminsky, Reinhart, Rogoff, etc. They find that private deleveraging is very rapid after a crisis and is associated with low growth and high unemployment. The ratio of private credit to GDP rises by a median of 38 percentage points in the decade prior to a crisis, and drops by an equal amount in the decade after. Per capita GDP growth is 0.6 percentage points lower after a crisis.
- Downturns that follow a financial crisis are typically long and deep. On average, GDP per person falls by more than 9% from its peak and takes almost two years to reach bottom.

After the crisis

- The unemployment rate increases by an average of seven percentage points after severe meltdowns and reaches a peak almost five years after its rise began.
- House prices take an average of five years to reach their nadir and fall by 36% in real terms. Equities take less time to reach rock bottom but lose more than half their value by the time they get there.
- Real government debt rises by an average of 86% in countries afflicted by severe crisis. These huge deteriorations in public finances are still not enough to prevent deep and prolonged downturns.

After the crisis

- A very recent paper by Reinhart and Rogoff examines 100 of the most severe crisis of the past 200 years. They compute the time it took for output per person to return to its previous peak (for recovery). They obtain an average of 8.4 years (the median is about 6.5 years). Five to six years after the onset crisis, only the US and Germany (out of 12 systemic cases) have recovered. The IMF projections do not show periphery Europe recovering to pre-crisis level by 2018. The authors advocate the other countries using heterodox policies like debt write-downs, constraints on the flow of capital and other forms of financial repressions to reduce debt burden.