

1 Introduction

The ups and downs of the business cycle

Despite all the claims about the demise of the business cycle, it lives on. Every five years, the economies of the developed world experience a recession of varying intensity. In popular terms, a recession is defined as two consecutive quarters with falling gross domestic product (GDP). To be more precise, a recession in the USA occurs whenever a specifically appointed group of researchers at the National Bureau of Economic Research (NBER) says so. The decision they take depends not only on the growth rate, but also the unemployment rate and other factors.

Since the first recession was identified in 1854, thirty-two full business cycles had occurred before the present one, the average cycle thus having a duration of 4.6 years. The downturn (recession phase) lasted on average 17 months and the upturn (expansion phase) for 38 months. The latest identified low points in the cycle in the USA took place in March 1975, July 1980, March 1991 and November 2001. The 10-year uninterrupted expansion between 1991 and 2001 is unique, since the period lacks a clearly defined recession, even though the growth rate slowed in the middle of the period. The expansion from the autumn of 2001 was also much longer-lasting than usual. According to the NBER, the recent recession started in December 2007, after a 6-year expansion phase. But the latest recession has also been longer than average. It ended in June of 2009, according to an announcement by the NBER in September 2010. This would mean a recession of 18 months, the longest downturn since the 43-month Great Depression, and longer than the 16-month oil-price-induced contractions of 1973–5 and 1981–2.

A stable macroeconomy induces more financial risk-taking

One of the contentions in this introduction and the next two chapters is that the long period of stable and unusually high growth rates led to a



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false sense of security on the financial markets. Uncertainty, as measured by the volatility index of stock market prices or interest rate spreads of risky assets ("junk bonds") versus government bonds or prices of credit default swaps (CDS contracts; to be discussed in much more detail later), fell to unprecedented levels during this long, benevolent period.

This false sense of security and well-being led governments, as well as banks, investors and ordinary consumers, to speculative behavior of gigantic proportions. The result, as growth became negative and asset markets crashed, was a huge debt burden, leading to defaults and bankruptcies of overborrowed households and corporations (GM, Chrysler ...), as well as banks in a number of countries (Lehman Brothers and Washington Mutual in the USA; Northern Rock and RBS in the UK; Hypovereinsbank and Landesbank Sachsen in Germany; Fortis Bank in the Benelux; Erste Bank in Austria; Anglo Irish Bank in Ireland; Roskilde Bank in Denmark), and indeed also sovereign states (Iceland, Greece ...). Even the USA has not been immune; the ratio of debt to GDP is set to surpass 100 percent in 2012, according to forecasts from the International Monetary Fund (IMF). This has never happened before in peacetime.

Yet it is surprising that the risk of an oncoming financial crisis was seen as low or even non-existent by almost all observers. We know from history that every other registered recession has been accompanied by or created by or given rise to a financial crisis - which is the chicken and which is the egg has varied from time to time. In the thorough analysis in his classic book Manias, Panics and Crashes, Charles P. Kindleberger identified thirty-eight serious financial crises in the world from 1618 to 1998, of which eleven occurred during the last 100 years, starting with the crisis of 1907, hence a financial crisis every 10 years on average. In the mid-1970s, the crisis was occasioned by currency fluctuations connected with the breakdown of the Bretton Woods regime of fixed exchange rates, aggravated by the rise in oil prices (OPEC I). The bankruptcy of the German Herstatt Bank in 1974 is the most well-known bank collapse of this period. The middle of the 1980s saw the US bank and thrift crisis, after a wave of deregulations allowed banks to move away from their traditional home markets, towards new products, new markets and new customers. The result was a bubble, particularly in commercial property. When it imploded, almost 4,000 banks were knocked down; the then seventh largest bank in the USA, Continental Illinois, was nationalized in



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1984. We had to wait until September 2008, and the bankruptcy of the savings bank Washington Mutual (the 39th largest bank in the world and also number 7 in the USA), for an even larger bank collapse. From the beginning of 2007 until the third quarter of 2010, over 300 US banks or savings banks were closed, placed under public conservatorship, recapitalized by the government or merged with stronger partners with the support and encouragement of the supervisory authorities, together with three of the largest and best-known investment banks, Bear Stearns, Merrill Lynch and Lehman Brothers. The number of failed banks may seem small from a historical perspective, but, as we will discover, we find in their midst five of the fifteen largest US banks in 2007, the year the crisis started.

Kindleberger does not discuss the financial crises in the Nordic countries since they were regional in character. They are analyzed in this book, however, not least since "the Swedish way" (i.e. total nationalization rather than a limited capital injection and part ownership) has become in vogue in the debate on solutions to the recent financial crisis. Kindleberger wound up his book with the Asian banking crises in 1997, which, though regional, were much more severe than any of the other crises studied in this book, with the exception of that of Iceland today.¹ The next crisis was the Russian insolvency in August 1998. In itself, this was a minor event, given the (then) small size of the Russian economy. But the Russian problems revealed and highlighted the existence of a new financial phenomenon, so far relatively unknown, the so-called "shadow banking system," and, in particular, hedge funds. A hedge fund called Long-Term Capital Management (LTCM) experienced serious problems. The fund, led by, inter alios, two winners of the Nobel Prize in Economics, had speculated that credit risks were waning, and hence that spreads between interest rates on such assets as Italian vs German bonds, Russian vs US dollar-denominated bonds, mortgage bonds vs sovereigns, would fall. The Russian collapse led to widening instead of diminishing spreads and the fund lost great amounts of money. At the end, its capital was down to \$600 million, to support assets of \$129 billion and a leverage (gearing ratio) of 215! On top of this, LTCM had positions in derivatives, mainly interest swaps and moreover mostly uncollateralized, of \$1,250 billion, corresponding to one-tenth of the entire world market for rate swaps.

¹ Kindleberger and Aliber, Manias, Panics and Crashes.



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The most exhaustive recent survey of financial crises, by Reinhart and Rogoff, identifies a great number (296 to be exact) of financial crises in sixty-six countries over a span of 800 years. Their book is a must-read for any serious student of financial panics. Their focus in the main part of the book is on government defaults in developing economies (including today's developed countries at earlier stages in their history), and is thus not of primary relevance for the financial crisis of today, which has been almost exclusively a rich-country phenomenon, where no sovereign country has gone openly bankrupt (so far, that is; Greece or Ireland may have defaulted after this book went to the printers).

Reinhart and Rogoff also study the 138 banking crises occurring after the Second World War. Again, their main interest is the effect of a banking crisis on the sovereign country's growth rate and an increase in government budget deficit and debt. Interestingly enough, however, they show that banking crises in developed and developing nations have two features in common. One of their main findings, for instance, is that a surge in capital imports is prevalent in the run-up to banking crises. As we shall see in Chapter 8, this was indeed a major feature of the Southeast Asian crises in the 1990s (mainly Thailand, South Korea and Indonesia). But the recent crises in countries like the USA, the UK or Spain can also be said to be connected with a huge amount of capital imports, since the countries in question were running large-scale current account deficits.

The other feature common to banking crises in both developed and developing nations is a surge in the price of property, residential and/or commercial. We will come back to these two important features in the following chapters.

A financial crisis can only be triggered by factors unknown to (most) market participants. If these factors were known, there would have been no crisis, since the market would have adjusted itself to the circumstances. This does not mean that warning signals were not visible to the informed observer, only that the majority were happily ignorant. While some well-known academic seers, such as Professor Robert Shiller of Yale University, Professor Daniel Roubini of the Stern School of Business at the New York University and Dr. Henry Kaufman (former Chief Economist of the investment bank Salomon Brothers), warned of

² Reinhart and Rogoff, This Time Is Different.



You can fool some people all of the time ...

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the oncoming storm, they were treated like Cassandras and ignored.³ Comforting words came from the Federal Reserve Chairman Alan Greenspan and his successor Ben Bernanke, as well as from the Secretary of the Treasury under President George W. Bush, Henry "Hank" Paulson, not least trustworthy to the general public, since he came from the position of CEO of the most respected Wall Street firm, Goldman Sachs.

Paulson stated in August 2007 that the problem in the mortgage sector, due to failing subprime mortgages (to be defined in Chapter 4), was "largely contained." Four months later, Countrywide Financial, the largest mortgage bank in the USA, was on the brink of failure and was absorbed into Bank of America. The year before, Countrywide had had a market share of 20 percent of all outstanding residential mortgage loans in the USA. In July 2008, after the failure of the fifth largest investment bank, Bear Stearns, and the seventh largest mortgage bank, IndyMac, Paulson said: "It's a safe banking system, a sound banking system. Our regulators are on top of it. This is a very manageable situation." He continued a month later by stating that the government had no intention of injecting fresh capital into the two semi-public mortgage giants Fannie Mae and Freddie Mac (which are so-called government sponsored enterprises, or GSEs), responsible for half the mortgage market in the USA. Within a month, both had to be taken into government conservatorship and given potentially \$400 billion in new capital, while the largest investment bank, Merrill Lynch, was saved only by being bought by Bank of America. Another of the five largest investment banks, Lehman Brothers, was allowed to go bankrupt, and the largest insurance company in the world, AIG, was saved only by government intervention and direct loans from the Federal Reserve.

You can fool some people all of the time ...

Unfortunately, people want to be comforted and have a built-in tendency to trust their elected officials. As emphasized by Robert Shiller and George Akerlof (Nobel Prize winner in 2001), in their highly readable book on the "animal spirits" that guide human behavior,

We will meet them again many times in later chapters. Cassandra was the daughter of King Priam of Troy. Possessed with prophetic powers, she had been cursed by the lovesick but spurned Apollo, so that no one would believe her.



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confidence in one's fellow human beings is as contagious as a disease and may arise or vanish in the most mysterious ways. Akerlof has also stressed the importance of information asymmetry, when investors/buyers know much less about the product being sold than the issuer/seller. Indeed, Goldman Sachs was sued by the Securities and Exchange Commission (SEC) in April 2010 for selling and marketing products to unsuspecting clients, products that the employees in the firm privately called "junk," and did not tell investors buying the product that Goldman Sachs themselves were selling the bonds short – that is, speculating in a falling price of these securities. Goldman Sachs has also been sued for breach of trust by private investors, such as the German Landesbank Baden-Württemberg.

The adages that "some people can be fooled all of the time" and "all the people can be fooled some of the time" are of course hardly new. Akerlof and Shiller would have done well to quote the Scottish journalist Charles Mackay, whose book *Extraordinary Popular Delusions and the Madness of Crowds* really told the whole story of the present financial folly in the year 1841, well over 160 years before it broke out:

We find that whole communities suddenly fix their minds upon one object, and go mad in its pursuit; that millions of people become simultaneously impressed by one delusion, and run after it, till their attention is caught by some new folly more captivating than the first ... Money, again, has often been a cause of the delusion of multitudes. Sober nations have all at once become desperate gamblers, and risked almost their existence upon the turn of a piece of paper ... Men, it has been well said, think in herds; it will be seen that they go mad in herds, while they only recover their senses slowly, and one by one.⁸

⁴ Akerlof and Shiller, *Animal Spirits*, p. 56.

⁵ The classic article is Akerlof, The market for "lemons." A "lemon" is slang for a lousy car with a shiny exterior.

⁶ The case was settled in July 2010, with Goldman Sachs paying a record fine of \$550 million.

But, as Milton Friedman famously reminded us, "you cannot fool all the people all of the time." All three quotes are originally from Abraham Lincoln.

Mackay, Extraordinary Popular Delusions. The quote is from the preface to the 1852 edition. The book is eminently readable, describing and deriding not only John Law and his Mississippi scheme, the South Sea Bubble and tulipomania in Holland, but also such frenzies as the crusades in the eleventh and twelfth centuries and the witch hunts of the sixteenth and seventeenth centuries.



You can fool some people all of the time . . .

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In the situation ruling just before the outbreak of the most recent financial crisis, it was well-known that the housing markets in some countries were loan-financed to a greater extent than in other countries. In the USA, housing loans in 2007 amounted to an equivalent of 75 percent of GDP. In the UK, the equivalent figure was 83 percent of GDP, to be contrasted with only 18 percent of GDP in Italy, 30 percent in France and 54 percent in Germany. These data were, of course, published and known. What was less well known was that some 10 percent of the amount outstanding and 20 percent of new loans granted in the USA were so-called subprime loans, extended to persons with earlier instances of payment delinquencies and/or low incomes in relation to the size of the loan. Often these people had bought the house on pure speculation, with no downpayment at all. Indeed, the US National Association of Realtors found that in 2005 and 2006, 40 percent of those who bought their first house took out mortgages with no downpayment whatsoever. They also benefited from initial beneficially low rates of interest, so called "teaser rates," which were to be adjusted after a few years. It was the resetting of these advantageous interest rate terms at the end of 2006 that was to trigger the "subprime crisis."

But the unknown did not stop here. For another new factor was a characteristic feature of the financial crisis of 2007–10. Earlier banking crises had been local – a bank with excessive or risky lending went bust. This time round, the delinquent loans turned up in the most unexpected places. The reason was that the vast majority of mortgage loans in the USA, and some in the UK, had been "securitized" - that is, sold off in the form of mortgage-backed securities (MBSs) or collateralized debt obligations (CDOs) to companies formally independent from the bank (structured investment vehicles, or SIVs), which, in turn, had financed the purchase by borrowing at short term (for instance, on asset-backed commercial paper, or ABCP). The securities purchased had often been given the highest possible rating (AAA/Aaa) by rating companies such as Standard & Poor's or Moody's, with, as it would turn out, vastly unrealistic assumptions as to borrowers' low rate of default, and also a vastly overstated confidence in the insurance written to safeguard such bonds and guarantee their payments, CDSs. Not only banks, but also insurance companies such as AIG, then the largest insurance company in the world, landed themselves on the brink of bankruptcy by means of such products. All the major insurance companies in the USA that specialized in guaranteeing mortgage products (so-called "monolines") vanished.



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The outstanding stock of mortgage loans in the USA amounted to just over \$10,000 billion at the end of 2008, the year crisis struck. Bonds issued with these mortgages as underlying collateral were equivalent to over four-fifths of this sum. Since the bonds were (mostly) AAA-rated but still had a higher yield than government bonds, they were attractive investments not only for US investors but for investors worldwide, in particular, pension funds, which are precluded by law from investing in low-rated securities. The three main Icelandic banks had purchased US mortgage bonds and other foreign currency securities for an amount corresponding to five times Iceland's GDP! All three banks were later nationalized. The German savings bank Landesbank Sachsen, owned and guaranteed by the state of Sachsen, had purchased US mortgagerelated securities for \$26 billion; the bank's equity corresponded to \$1 billion. Under threat of bankruptcy, the bank was merged with the larger Landesbank Baden-Württemberg, while the residents of the relatively poor, former East German state of Sachsen were stuck with the bill for the excesses, amounting to €650 per inhabitant, irrespective of age. Not to be outdone, also state-guaranteed Westdeutsche Landesbank in Düsseldorf bought US mortgage bonds for \$114 billion on a capital base which amounted to \$10 billion. More examples will be given in the body of the book later on.

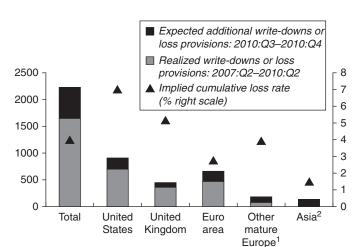
How much will this cost banks and taxpayers?

From the beginning of 2007 through mid-2010, the world's banks have written off well over \$1,700 billion for actual or expected credit losses related to the housing market, corresponding to almost half of their capital at the end of 2007. Many banks have written off sums much larger than their capital, though they have been recapitalized by their owners and/or by the government in the process. Insurance companies add some \$300 billion to these losses. The IMF estimated in April 2009 that the final bill might amount to over \$4,000 billion (lowered to a new estimate of \$3,400 billion in September 2009 and to \$2,200 billion in October 2010). (See Figure 1.1.)

Realized write-downs through mid-2010 were, as seen in the graph (left-hand scale), about \$700 billion in the USA, \$350 billion in the UK, \$400 billion in the euro area, with minor amounts in other European countries and Asia. But given the delinquent assets in question, the rate



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¹Includes Denmark, Iceland, Norway, Sweden and Switzerland.

Figure 1.1 Realized and expected write-downs or loss provisions for banks (by region, \$ billion and % of loans)

Source: International Monetary Fund, Global Financial Stability Report (October 2010)

of loss is seen to be (right-hand scale) 6.5 percent in the USA, 5 percent in the UK, 2.5 percent in the euro area, 4 percent in other European countries (such as Switzerland, Denmark and other Nordic countries), but only 1.5 percent in Asia.

In capital injections, loans and guarantees from the various states, banks have received potential sums of over \$20,000 billion (\$20 trillion), a figure that may be compared with total GDP in the USA and the European Union put together, of \$32,000 billion in 2008 (Figure 1.2). We will come back to more detailed data later. It should be noted that the figures in Figure 1.2 understate the full amount of government support, since they do not include the deposit guarantee system, despite the fact that the various sovereign states guarantee depositors should the accumulated insurance funds prove insufficient. With these guarantees included, the total amount of support exceeded the level of GDP in both the USA and the UK.

Actual gross costs to the taxpayer have been much lower, some \$51 billion in the USA, according to a Treasury forecast from October 2010. For the UK, the loss was set at £117 billion (according to the National

²Includes Australia, Hong Kong SAR, Japan, New Zealand and Singapore.





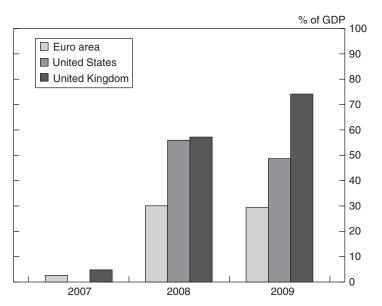


Figure 1.2 Public sector interventions during the financial crisis (% of GDP) Source: Bank of England, *Financial Stability Report* (December 2009)

Audit Office) in December 2009). The British Treasury calculated at the same time that the final cost might be only £10 billion, down from earlier estimates of between £20 billion and £50 billion. The Treasury lowered the estimate still further to a net loss of just £2.4 billion in June 2010.

Well over a million jobs have been lost in the financial sector worldwide.

Recapitalization by taxpayers, issues of fresh equity and a return to profitability actually allowed banks to raise their capital standards, even during the crisis. Figure 1.3 shows Tier 1 capital (to be defined in more detail later, but basically equal to equity) in relation to riskweighted assets in the major European countries. The ratio actually rose somewhat in 2008, and even more so in 2009, to reach 12 percent in the UK. This may be contrasted with the legal minimum of just 4 percent.

⁹ National Audit Office, Maintaining financial stability.