PART I

A chronological presentation of crisis events January 2007 – December 2014

There exist already some 300 books and even more articles on the financial crisis, its causes and remedies; there is no need to add one more.[1] Many of them are quoted in the list of literature at the end of the book. Especially recommended is the comparison and evaluation of some of the better ones by MIT Professor Andy Lo.[2] Hence this part of the book makes no pretence at explanations; it gives a hopefully neutral and chronological description of events.

The Liikanen report[3] contains a very useful summary of the "waves" following one after the other (p. 18):

- Wave 1: "Subprime crisis phase" (mid 2007 to September 2008): investment portfolios collapse (especially in MBSs and CDOs linked to subprime loans);
- Wave 2: "Systemic crisis phase" (from September 2008): unprecedented state aid to the banking sector is required as liquidity evaporates;
- Wave 3: "Economic crisis phase" (from 2009): automatic stabilizers kick in following the recession, and fiscal sustainability is imperiled through fiscal stimulus and state aid;
- Wave 4: "Sovereign crisis phase" (from 2010): bank–sovereign feedback loops raise significant challenges given the existing institutional EU framework;
- Wave 5: "Crisis of confidence in Europe phase" (from 2011 and present): EU at a crossroads.

[1] See http://businesslibrary.uflib.ufl.edu/financialcrisesbooks and www.investorhome.com/crisisbooks.htm
[2] Andrew W. Lo, "'Reading about the financial crisis: a 21-book review," *Journal of Economic Literature*, 50:1 (March 2012), pp. 151–78.
[3] European Commission, 'High level expert group on reforming the structure of the EU banking sector' (Liikanen report), October 2012.

These "waves" should be borne in mind while reading the timeline below.

5 February 2007: The mortgage bank Mortgage Lenders Network, the fifteenth largest subprime lender in the United States, becomes the first victim of the subprime crisis when it files for Chapter 11 protection.

7 February 2007: The British megabank HSBC announces a new reservation of 1.8 billion dollars for potential losses in its portfolio of US subprime loans; its head of US mortgage banking is fired.

27 February 2007: The semi-government owned mortgage bank Freddie Mac announces that it will no longer purchase (and securitize) subprime mortgages.

28 March 2007: Treasury Secretary Hank Paulson appears before a committee of the House of Representatives, saying that "From the standpoint of the overall economy, my bottom line is we're watching it closely but it appears to be contained."

2 April 2007: New Century Financial, the second largest subprime lender in the US, files for protection under Chapter 11. The value of its stock has fallen from 1.75 billion dollars at the beginning of the year to basically zero. Accused of "significant improper and imprudent practices related to its loan originations, operations, accounting and financial reporting processes," it settles with the Securities and Exchange Commission (SEC) for an unknown sum, its CEO and two other officers being barred from holding directorships in public companies for five years. Since it had not taken deposits, it had not been supervised by any state or federal superviser.

17 April 2007: The Supreme Court of the United States ends a four-year quarrel between state banking regulators and the federal banking regulator OCC (Office of the Comptroller of the Currency within the Treasury Department). North-Carolina-based Wachovia Bank had refused to abide by state laws concerning restrictions on mortgage lending on account of its being a nationally chartered bank under OCC supervision. The Supreme Court ruled five to three in Wachovia's favor, leaving the OCC as its sole regulator. In deep trouble and on the brink of bankruptcy, Wachovia was later acquired by Wells Fargo (see below, 9 November 2007, 29 and 30 September 2008 and 3 October 2008).

23 April 2007: Bank of America agrees to take over LaSalle Bank for 21 billion dollars in cash. The Chicago-based bank with assets of 116 billion dollars was a subsidiary of Dutch bank ABN AMRO which wanted to get its American subsidiary out of the way as it was fighting against a hostile takeover by Fortis, RBS and Santander (see below, 17 October 2007).

3 May 2007: Swiss bank UBS closes its internal hedge fund Dillon Read Capital Management, taking the positions onto its own books but continuing the investment in securities linked to subprime mortgages.

7 June 2007: The American investment bank Bear Stearns disallows withdrawals from two of its hedge funds which have invested in American CDOs whose value has fallen sharply. The two funds, High-Grade Fund and Enhanced Leverage Fund, are basically worthless. The head of Bear Stearns Asset Management, BSAM, Ralph Cioffi, administered both 11 CDOs (collateralized debt obligations) as well as the two hedge funds. Since he picked the CDOs that the hedge funds would invest in, he was sitting on both sides of the transaction in a clear conflict of interest between his CDO investors and his hedge fund investors. Cioffi and an associate were later arrested and charged with misleading investors. They were, however, acquitted in November 2009, the jury finding them not guilty of "conspiracy, and securities and wire fraud" in the first criminal trial after the collapse of the subprime mortgage market. In February 2012, they settled a civil suit with the SEC, Cioffi paying a fine of 800,000 dollars and accepting a three-year ban from the industry.

6 July 2007: The CEO of Swiss bank UBS, Peter Wuffli, is fired by the board.

10 July 2007: Standard & Poor's and Moody's begin a dramatic downgrading of AAA/Aaa rated residential mortgage-backed securities (RMBS) and corresponding CDOs. On this one day, Standard & Poor's downgraded 498 subprime-related issues with a nominal value of around 6 billion dollars, Moody's 399 issues worth 5.2 billion. During the second half of 2007, Standard & Poor's downgraded more than 9,000 RMBS ratings. Over 90 percent of RMBS originally rated AAA/Aaa in 2006 and 2007 would by 2010 have been downgraded to junk status. Among the worst performers was

Washington Mutual savings bank (WaMu) and its subsidiary Long Beach Mortgage Company, being responsible for 6 percent of securities issued in 2006 but 14 percent of the downgrades. All of the 75 RMBS issues by Long Beach would be downgraded to junk status. WaMu would later fail in the largest American bank bankruptcy ever.

19 July 2007: The Dow Jones stock market index exceeds 14,000 for the first time.

30 July 2007: The German investment bank IKB Deutsche Industriebank AG, majority owned by the German federal state via Kreditanstalt für Wiederaufbau (KfW), unable to roll (refinance) its liabilities in the form of asset-backed commercial paper (ABCP), is rescued by a loan of 3.5 billion euro by Commerzbank, Deutsche Bank and the KfW, later increased to 5 billion euro. In its Dublin-based Rhinebridge subsidiary (an SIV, structured investment vehicle), it had borrowed on ABCP to finance, mainly, investments in US mortgage-related CDOs as well as synthetic CDOs, such as Goldman Sachs' Abacus 2007-AC1 (see below). Its total assets were 15 billion euro. Since the ABCP had been sold with put options, the investors were able to sell the securities back to KfW which took the loss onto its own books.

5 August 2007: The co-president of Bear Stearns, Warren Spector, is forced to resign over the two failed funds he oversaw.

6 August 2007: American Home Mortgage, the tenth largest mortgage bank in the US, files for protection under the bankruptcy laws, not having been able to roll over its funding on ABCP. From a peak of 1.2 trillion dollars in mid 2007, the total US ABCP market outstanding would halve by the end of 2008.

9 August 2007: The largest French bank BNP Paribas freezes three of its funds for withdrawals after the market for CDOs based on US subprime mortgages has fallen by 20 percent.

9–10 August 2007: To alleviate the resulting lack of liquidity in the frozen interbank market, the major central banks inject money into the system: the Federal Reserve 43 billion dollars, ECB 95 billion euro (with an additional 300 billion added by December) and the Bank of Japan 8 billion dollars (equivalent). Bank of England does, for the moment, nothing.

16 August 2007: Countrywide Financial, the largest US mortgage bank, narrowly avoids bankruptcy by receiving emergency loans of 11 billion dollars from a consortium of banks. The news, however, triggers a bank run, where 8 billion dollars in deposits are withdrawn on a single day.

22 August 2007: ECB announces 40 billion euro liquidity support through the three-month scheme Longer-Term Refinancing Operation (LTRO).

26 August 2007: The regional German savings bank Landesbank Baden-Württemberg (LBBW) takes over Landesbank Sachsen which would otherwise have gone bankrupt. Through two Dublin-based SIVs, Ormond Quay and Georges Quay, it had invested heavily in American mortgage-related CDOs. The 'toxic assets' cost the taxpayers of the state of Sachsen 2.8 billion euro, assets which LBBW refused to take over. The affair cost the Ministerpräsident (minister-president) of Sachsen his job.

31 August 2007: Ameriquest, the largest remaining subprime lender, goes bankrupt. Citigroup takes over its mortgage-servicing unit for an undisclosed sum. Despite widespread allegations of mortgage fraud, having led to a 325 million dollar settlement in 2005, with financial regulators in 49 states and Washington, DC, accusing Ameriquest of misrepresenting and failing to disclose loan terms, charging excessive loan origination fees and inflating appraisals to qualify borrowers for loans, the former CEO of Ameriquest, Roland Arnall, is appointed by President George W. Bush as US ambassador to the Netherlands.

1–3 September 2007: At the annual central bank conference in Jackson Hole, Wyoming, Yale economics professor Robert J. Shiller predicts that house prices in the United States may fall by 50 percent over the next couple of years. The actual figure turned out to be 25 percent (according to the 20-city Case–Shiller index) for the two-year period and 35 percent from peak to trough.

3 September 2007: The German investment bank IKB, majority owned by the German federal state via Kreditanstalt für Wiederaufbau, reports a loss of over one billion dollars on account of American mortgage-related bonds (see also above for Rhinebridge SIV, 31 July 2007, and below for Abacus, 16 April 2010).

6 September 2007: ECB adds another 75 billion euro to its LTRO lending.

10 September 2007: Victoria Mortgage Funding in the UK becomes the first European victim of the global financial crisis. While not a bank, it had originated high-risk mortgages, repackaged and resold to banks.

13 September 2007: BBC reports that the Bank of England has secretly given the mortgage bank Northern Rock liquidity support to the tune of 21 billion pounds (later extended to over 55 billion). The news leads to a run on the bank the next day, the first major bank run in Britain since 1866 (which was aimed at Overend, Gurney and Company, a discount house).

17 September 2007: The chancellor of the exchequer, Alistair Darling, extends a government guarantee to all deposits in Northern Rock and, implicitly, in any other UK bank with problems (confirmed on 9 October but applicable only to deposits made after 19 September).

18 September 2007: The Federal Reserve continues its decreases of the Fed Funds rate which brings the rate from 5.25 to 1 percent in a year.

28 September 2007: Netbank, one of the largest internet banks in the United States, is closed by its supervisor, the Office of Thrift Supervision (OTS). It becomes the largest savings bank failure since the 1980s. Its deposits are taken over by Dutch bank ING Direct.

1 October 2007: Dublin-based Depfa (Deutsche Pfandbriefanstalt) is taken over by Hypo Real Estate in Munich.

2 October 2007: The Swiss bank UBS reports credit write-downs of 3.6 billion dollars on account of losses on American mortgage-related bonds.

9 October 2007: The Dow Jones share index tops at index level 14,165. The low point of 6,627 is reached in March 2009 for a fall of 53 percent in 17 months. The old peak would be breached first on 13 March 2013.

11–19 October 2007: Standard & Poor's and Moody's downgrade more than 2,500 bond issues linked to subprime mortgages, worth some 80 billion dollars in original nominal value.

15 October 2007: Citigroup, the largest bank in the United States, reports a write-down of 8.5 billion dollars for the third quarter.

15 October 2007: A consortium of American banks and investment banks plan to create a government-supported "super fund" of 100 billion dollars in order to buy mortgage bonds, thereby supporting their prices. The plan collapses on 24 December on account of the falling prices on these bonds and the impossibility of assessing what the reasonable price would be.

17 October 2007: The Dutch bank ABN AMRO is bought for 71 billion euro (the largest takeover in banking history) by a consortium consisting of the Benelux bank Fortis, the Spanish Grupo Santander and the Royal Bank of Scotland (RBS) which divide up the bank among them. Fortis pays 24 billion euro for its share, mainly the Dutch parts of the bank. Santander gets the South American and Italian operations, the latter (Banca Antonveneta) being immediately sold to Monte dei Paschi di Siena for 9 billion euros, a profit of 36 percent for two months' holding. RBS receives the global banking business and wholesale clients. RBS will, on account of the purchase, post a record loss before tax of 40.7 billion pounds for 2008, of which 30.1 billion was write-down of goodwill largely (22 billion) related to the purchase of ABN AMRO. Losses on credit trading were 17.7 billion pounds, also mostly related to the CDS and CDO portfolio taken over from ABN AMRO.

24 October 2007: The largest American investment bank, Merrill Lynch, makes reservations for credit losses of 7.9 billion dollars for the third quarter alone (later increased to 8.4 billion), leading to a net loss of 2.3 billion dollars. The losses occurred despite the fact that the bank had warehoused mainly the super senior tranches in the CDOs they had constructed, selling the lower-rated tranches. At the end of September, it held a gross position of 55 billion dollars in CDO-related paper. The chairman and CEO, Stanley O'Neill, is forced to resign three weeks later. Despite the company's write-downs, he receives a severance payment (a "golden parachute") of 161 million dollars, on top of his normal annual salary of 48 million dollars.

31 October 2007: Deutsche Bank makes reservations for credit write-downs of 3 billion dollars (equivalent).

1 November 2007: Credit Suisse reports a write-down of 1 billion dollars (equivalent).

1 November 2007: The Federal Reserve injects 41 billion dollars in liquidity, the largest operation since 9/11 in 2001.

5 November 2007: Citigroup is forced to make a new reservation of 11 billion dollars on top of the 5.9 billion taken one month earlier. Its total subprime exposure was stated at 55 billion dollars. The CEO and chairman Charles "Chuck" Prince resigns. His severance payment is "only" 12 million dollars in cash, the rest, 24 million, being paid in stock which would eventually become virtually worthless as the price per share falls from 36 dollars on the day of his resignation to below 1 dollar at the lowest.

7 November 2007: The small monoline (i.e. an insurance company for credit products only) insurer ACA reports a loss of 1 billion dollars on Credit Default Swaps which wipes out its entire equity.

8 November 2007: The investment bank Morgan Stanley reports losses related to subprime loans of 3.7 billion dollars.

8 November 2007: ECB adds two tranches of 80 billion euro each to its LTRO.

9 November 2007: Wachovia, the fourth largest bank in the US, reports write-downs of 1.7 billion dollars.

13 November 2007: Bank of America, the largest bank in the United States by deposits, writes down 3 billion dollars in credit losses.

14 November 2007: The credit crisis reaches Europe whose largest bank (by capital), HSBC (Hong Kong and Shanghai Banking Corp), makes a credit write-down of 3.4 billion dollars (equivalent). Most of it referred to its American subsidiary.

15 November 2007: Barclays, the second largest bank in the UK by assets and number three by capital, makes write-downs of 2.6 billion dollars (equivalent).

15 November 2007: The Federal Reserve adds over 47 billion dollars in liquidity to mitigate rising interbank rates.

20 November 2007: The American mortgage bank "Freddie Mac," Federal Home Loan Mortgage Corporation, a government-sponsored enterprise (GSE), is forced to take a credit write-down of 1.2 billion dollars. It issues new stock worth 6 billion dollars to private investors.

26 November 2007: HSBC reports having given its investment fund for structured products ("SIV") a support loan of 45 billion dollars to cover write-downs on its investments in CDOs and CDSs.

27 November 2007: The sovereign wealth fund of Abu Dhabi buys shares in Citigroup for 7.5 billion dollars, thereby becoming the bank's largest shareholder.

4 December 2007: The American mortgage bank "Fannie Mae," Federal National Mortgage Association, also a GSE, issues new stock worth 7 billion dollars.

6 December 2007: Royal Bank of Scotland, RBS, the biggest bank in the United Kingdom and the world by assets, writes down 2.5 billion dollars (equivalent) in credit losses.

10 December 2007: Swiss bank UBS is forced to reserve another 10 billion dollars (equivalent) for credit losses but receives a capital injection of 10 billion Swiss francs from Middle East investors.

12 December 2007: The Federal Reserve starts to lend to banks under the program TAF, Term Auction Facility, with maturities of between 28 and 84 days. Banks borrowed a total of 40 billion dollars within two weeks. The Fed also initiates a swap program with some major foreign central banks, allowing them to swap their national currencies for dollars. It initially involves the Bank of Canada, the Bank of England, the European Central Bank (ECB) and the Swiss National Bank (SNB). The total potential swap volume of 24 billion dollars would later swell to a maximum of 580 billion dollars.

16 December 2007: The CEO of failed Northern Rock, Adam Applegarth, leaves the company with full salary and pension rights though without any severance payment.

19 December 2007: Morgan Stanley reports another 9.4 billion dollars in credit write-downs and receives 5 billion dollars in new capital from the Chinese sovereign wealth fund CIC (China Investment Corporation), corresponding to approximately 10 percent of its share capital.

24 December 2007: The largest American investment bank Merrill Lynch receives a capital injection of 6.2 billion dollars from Davis Advisors and Temasek Holdings, Singapore's sovereign wealth fund, later increased by another 3.4 billion.

9 January 2008: The investment bank Bear Stearns reports write-downs related to subprime loans of 1.9 billion dollars. Its chairman and CEO, James Cayne, resigns, selling his shares in the company for 61 million dollars. A year earlier, they had been worth over a billion dollars.

11 January 2008: Countrywide, the largest mortgage bank in the United States, is purchased by Bank of America for 4.1 billion dollars. In 2006, Countrywide had had a market share of 20 percent of all outstanding residential mortgage loans in the United States. Its CEO, Angelo Mozilo, is later charged by the SEC with insider trading and securities fraud (having sold some 300 million dollars' worth of shares knowing of the bank's problems). The bank had recently shifted regulator from the Federal Reserve and OCC (Office of the Comptroller of the Currency) to the more lenient OTS (Office of Thrift Supervision).

15 January 2008: Citigroup writes down credits for 18 billion dollars for the fourth quarter of 2007.

17 January 2008: Merrill Lynch writes down an additional 14.1 billion dollars, leading to a net loss for 2007 of 8.6 billion dollars, but receives 6.6 billion dollars in fresh capital from the sovereign wealth funds of Kuwait and South Korea as well as Japanese bank Mizuho.

18 January 2008: The second largest bond insurer in the United States, Ambac, loses its AAA rating from Fitch and is placed on credit watch by Standard & Poor's after having canceled a planned sale of equity of 1 billion dollars.

24 January 2008: The National Association of Realtors in the US reports the first fall in house prices to have occurred since the Depression.

25 January 2008: Douglass National Bank in Missouri becomes the first bank to become insolvent in the New Year. Another 24 banks would follow later that year.

30 January 2008: Standard & Poor's downgrades or puts on credit watch over 8,200 RMBS and CDO securities, most with a AAA rating, worth a total nominal sum of 534 billion dollars, warning that investors may lose up to 265 billion dollars on their investments.

31 January 2008: The insurance company MBIA whose main business is credit insurance (it is a so-called monoline) reserves 2.3 billion dollars for expected losses.

8 February 2008: Deutsche Bank makes further write-downs of 3.2 billion dollars (equivalent).

13 February 2008: Deutsche IndustrieBank (IKB) reports further losses on its Rhinebridge Irish subsidiary and receives a capital injection of 1.5 billion euro from the federal state.