

## **Caveat emptor? Goldman Sachs and the Abacus deals**

*John Hendry, 2012*

In the wake of the Financial Crisis of 2007-8, one of the issues to have attracted significant press comment was Goldman Sachs's marketing of a series of "synthetic CDOs" bearing the name Abacus. The headline story was that Goldman sold these deals to its clients as good investments and at the same time placed heavy bets on their failing, eventually making huge profits when they did, while their clients made heavy losses. The full story is rather more complicated than that, but it raises some interesting and difficult questions – difficult, not least for Goldman, who in 2010 paid out \$550 million to settle charges brought by the Securities and Exchange Commission, their US regulators. This case study contains three parts. In the first part we shall explain what synthetic CDOs are and how they work, using an example documented by the US Financial Crisis Inquiry Commission.<sup>1</sup> In the second part we shall explain how the Abacus deals worked, again drawing on the Commission's report. In the third part we shall briefly describe the particular features of the deals for which Goldman Sachs came under attack.

### **The strange world of mortgage-backed securities**

For someone buying a house or apartment, a mortgage loan seems quite straightforward. To buy the property you typically borrow money from a bank, building society (in the UK) or thrift (in the USA). You then pay this back through regular payments over a period of time, these payments acting both to repay the capital borrowed and to pay interest on the outstanding debt. If for any reason you become unable to make your repayments, the lender has the right to repossess the property: the mortgage is "secured" on the property.

Some mortgages really are that simple. Traditional building societies and thrifts were mutual organisations that took deposits from savers and lent to borrowers. Much of the time no other institution was involved. For many decades, however, American thrifts have been able to sell on mortgages to other institutions, notably the Federal National Mortgage Association (known as Fannie Mae) and later also the Federal Home Loan Mortgage Corporation (Freddie Mac). The basic idea was to encourage home ownership. Left to their own devices (and working under tight regulations) the thrifts could only lend as much as they could borrow from depositors, but by buying up mortgage loans these institutions effectively took them off the thrifts' books and so made it possible for them to make new loans, without raising new deposits. The agencies repaid the thrifts the costs of their mortgages, and took over entitlement both to the interest and repayments and to the security of the properties should the homeowner default.

---

<sup>1</sup> Financial Crisis Inquiry Commission, 2011, *The Financial Crisis Inquiry Report*, New York: Public Affairs.

The original institution, Fannie Mae, started life as a government agency, but this meant that the government had to pay for the mortgages and hold them on its own balance sheet, and by the early 1970s Fannie and Freddie, though government backed, were private corporations, which could still pass on their mortgages to another government agency (Ginnie Mae) but could also securitise and resell them. What this meant was that a whole load of mortgages would be bundled together and sold on the commercial market. Investors would buy mortgage-backed securities from a specially created company that had purchased the rights to the income stream from a large bundle of mortgages, together with the associated security. Because houses were seen as an ultra-safe investment, and because Fannie and Freddie were only allowed to buy “conforming” mortgages which met high underwriting standards and were therefore especially secure, these were attractive investments. And because the interest paid by homeowners on their mortgages was much, much higher than the interest paid out on other safe investments like government bonds, there was scope for both the originating thrift (the company that first set up the mortgage) and Fannie or Freddie to take hefty fees and still leave investors with a very attractive interest rate.

So far, securitisation was limited to “prime” or “conforming” mortgages, but in the 1980s investment banks saw a money-making opportunity and began buying up, securitising and selling “non-conforming” loans – mortgages issued on the basis of lower deposits, or poorer credit records or ability to pay on behalf of the homeowner, or mortgages on adjustable rates, such as teaser mortgages that offered very cheap rates for the first few years but then became much more expensive. These “sub-prime” mortgages were less secure, but the interest rates were higher and with rising house prices and the security of the underlying properties, they still seemed to be “as safe as houses”. They could also be “tranching”, which is where things start to get a bit complicated. To explain, let us look at a typical deal from 2006, CMLTI 2006-NC2, with a value of just under \$1 billion.

CMLTI 2006-NC2 was based on 4,499 mortgages that were originated by New Century Financial, a Californian mortgage lender. All the mortgages were sub-prime, so failing to meet normal underwriting standards (or what were normal underwriting standards before the 2000s) in one way or another. They were bought up by the banking conglomerate, Citigroup, and sold to a separate company set up by Citigroup, which owned the mortgages and issued the securities. (This arrangement kept the deal off the Citigroup balance sheet, so that the debts didn’t count when it came to calculating its capital ratios.) For securitisation purposes the mortgage pool was divided into 19 tranches (see Table 1), each of which offered investors a different interest rate and repayment schedule and a different priority claim on the flow of payments associated with the mortgages. Note that the tranches were not based on different sub-pools of mortgages, just on different risk-return relationships relating to the pool as a whole. To complete the offering each tranche was given an investment rating by the ratings agencies (Moody’s, Standard & Poors, Fitch), which was effectively an opinion, paid for by the securitising company, on how safe an investment in that tranche was likely to be. A peculiarity of the rating process, and one of the underlying features of the whole financial crisis, was that although the underlying mortgages were all sub-prime, it was assumed by the ratings analysts that only a very few would default, and that even there much of the security

would be recovered. The tranching loaded the risk of default onto the lowest tranches, ensuring that the higher ones got impeccable ratings. In this case 78% of the securities issued by value, comprising the top 4 “senior” and “super-senior” tranches, were rated AAA, or as safe as government bonds. At the other end of the scale just 1.5% of the value was issued in “equity” tranches, which bore no rating and, analogous to the risk capital in an enterprise, only got anything back once all the bondholders had been paid. Between those, nine “mezzanine” tranches, 21% of the value, were given investment-grade ratings from AA+ down to BBB- and two further mezzanine tranches, about 2.5% of the value, were given junk bond ratings. The idea here was that there was a sufficient flow of interest payments from the underlying mortgages for Citigroup to take a generous securitisation fee and still find investors for all the tranches, each one appealing to different investors, with different risk-return profiles.

<b>Table 1</b>		<b>CMLTI 2006-NC2</b>			
<i>Tranche</i>	<i>Value \$m</i>	<i>Value %</i>	<i>Rating</i>	<i>Yield</i>	<i>Investors</i>
<i>Senior</i>					
A1	155	16.3	AAA	LIBOR <sup>2</sup> + 0.14%	Fannie Mae
A2-A	282	29.7	AAA	LIBOR + 0.04%	Banks, investment funds
A2-B	282	29.8	AAA	LIBOR + 0.06%	Banks, investment funds
A2-C	18	1.9	AAA	LIBOR + 0.24%	Banks
<i>Mezzanine</i>					
M1	39	4.1	AA+	LIBOR + 0.29%	Banks, investment funds, asset managers
M2	44	4.6	AA	LIBOR + 0.31%	Banks, investment funds, asset managers, CDO
M3	14	1.5	AA-	LIBOR + 0.34%	2 CDOs, asset manager
M4	16	1.7	A+	LIBOR + 0.39%	CDO, hedge fund
M5	17	1.8	A	LIBOR + 0.40%	Kleros III plus another CDO
M6	11	1.2	A-	LIBOR + 0.46%	2 CDOs
M7	10	1.0	BBB+	LIBOR + 0.70%	3 CDOs
M8	8	0.9	BBB	LIBOR + 0.80%	3 CDOs, bank
M9	12	1.2	BBB-	LIBOR + 1.5%	5 CDOs, asset managers
M10	14	1.4	BB+	LIBOR + 2.5%	3 CDOs, asset manager
M11	11	1.2	BB	LIBOR + 2.5%	unknown
<i>Equity</i>					
CE, P, R, Rx	13	1.4			Real estate finance company et al

As can be seen from the table, the senior tranches of this security were bought mainly by banks and investment funds. The junior tranches were bought by CDOs. So what are CDOs? A CDO, or Collateralised Debt Obligation (in this case a cash CDO backed by mortgage-backed securities) is yet

<sup>2</sup> LIBOR is the London Interbank Offered Rate, the rate at which banks report lending to each other.

another form of security, put together by buying the junior tranches from a range of different mortgage-backed securities, and pooling and tranching *those*. (The first CDOs were not mortgage-related, but were put together by the infamous Michael Milken out of junk bonds in the 1980s.) To continue with our example, some of the junior, higher-risk tranches of CMLTI 2006-NC2 were bought by Kleros III, effectively a joint venture between the big Swiss bank UBS, which underwrote the venture by buying the tranches and selling them to Kleros III, and a specialist CDO management firm, which structured the deal. Kleros III bought about \$1 billion worth of mortgage-backed securities in all, of which 16%, including just under \$10m of the A-rated mezzanine tranche of CMLTI 2006-NC2, were rated A, 39% above A, and 45% below A. But because the underlying mortgages now came from across the USA, and the ratings analysts' models assumed that mortgage failures in different regions would be uncorrelated (don't ask!!!) no fewer than 88% by value of the securities issued by Kleros III were rated AAA. And of those that were not, at least half were purchased by other CDOs, to be pooled and tranced yet again.

As the junior tranches were sold from CDO to CDO, keeping track of the underlying securities proved difficult, but at least there were underlying securities. For the finance guys, however, that was an unnecessary and inconvenient constraint. Enter the CDS or Credit Default Swap, a form of derivative used to hedge against the risk of a borrower defaulting on a loan. As the volume of mortgage-related CDOs grew, the banks who put them together increasingly kept much of the senior tranches for themselves. This was mainly because, in the fervour of the mid-2000s, they were less easy to sell at a worthwhile margin than the higher risk but higher interest mezzanine tranches. Because they were seen as ultra-safe, the banks were happy to keep hold of them, the cost of doing this being worth it for the fees they generated from selling the mezzanine tranches. To hedge these investments, and to prevent them from impacting on their required capital ratios, they purchased CDSs, mainly from a financial products subsidiary of the giant insurance company AIG. Effectively, for a small premium, they insured themselves against the risk of defaults on the underlying mortgages.

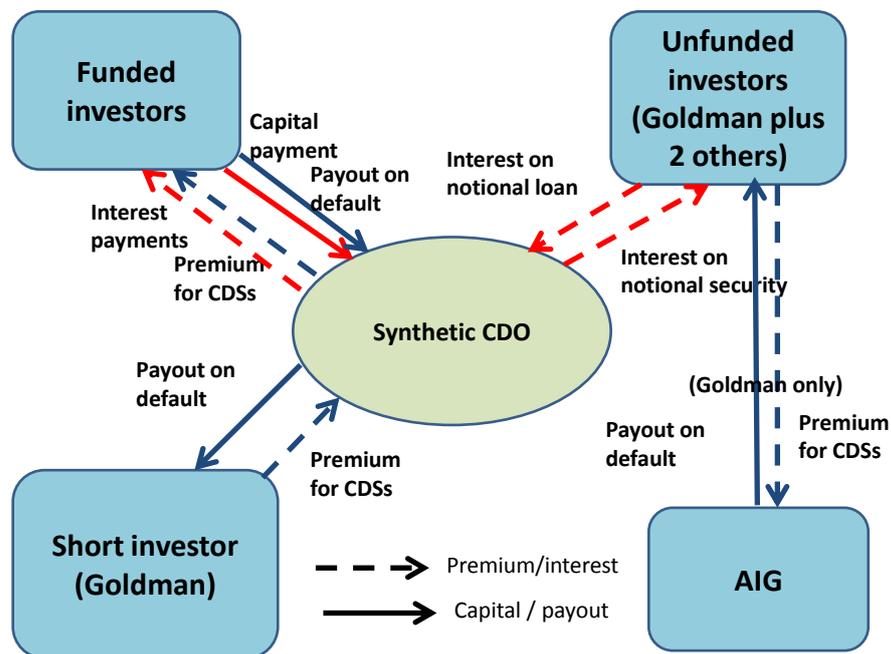
One of the truisms of finance is that anything that can be used for hedging can also be used for speculation, and the investment bankers soon realised two things. First, unlike a real insurance contract, a CDS doesn't require ownership of any underlying property. A CDS involves somebody paying a premium and receiving a payout if a specified loan defaults, but that somebody need have no relationship with the loan in question, and many people can take out CDSs on the same loan. Second, once you have a liquid market for CDSs, they can be used to construct new securities with all the properties of a CDO, but without actually needing to buy the underlying mortgages, which by the mid-2000s were in short supply: though lenders were furiously creating new ones, lending to anyone they could, they were limited by the number of homes in America. In a synthetic CDO, investors effectively buy and sell revenue streams and risks modelled on those that would be associated with a pool of mortgages, but without anyone concerned having to own the mortgages. Going back to CMLTI 2006-NC2, for example, one of the lower-grade mezzanine tranches, valued at about \$12 million, became a reference security for four times that value of synthetic CDOs, parts of the performance of which were modelled on its performance. To show how this works we shall look at one of the Goldman Abacus deals.

## The Abacus deals

Between 2004 and 2007, Goldman Sachs, which was already a major issuer of both mortgage securitisations and ordinary CDOs, created and sold 47 synthetic CDOs under the Abacus brand, with a total value of \$66 billion. To explain how they were structured we shall look at the first of these, Abacus 2004-1, valued at about \$2 billion. Like other synthetic CDOs, Abacus 2004-1 looked like an ordinary CDO, in that it had a number of tranches with different risk-return properties, and these were defined so as to mimic the performance of a notional pool of real mortgage-backed securities. But since it didn't own these securities, it had a rather different structure. As with other synthetic CDOs, there were three groups of parties to the deal.

- “Funded” investors bought the equity and mezzanine tranches of the deal, in this case valued at £195 million, paying Abacus 2004-1 the capital and receiving the stream of payments they would have received from the reference securities if they had been owned. They also took liability for any losses they would have made on the reference securities in a real CDO, which was achieved here by their selling CDSs on these securities to Abacus 2004-1.
- “Unfunded” investors took the part of the buyers of the senior tranches of a regular CDO, but since there were no underlying securities, Abacus 2004-1 had not had to pay anything to buy such securities, and given their supposed safety there was consequently no need for the unfunded investors to put money up front (hence “unfunded”). Instead they received premiums from Abacus 2004-1 modelled on the difference between the interest they would have earned from the reference securities in a real CDO and the interest they would have had to pay on a loan to buy them. They also took liability, just as the senior tranche holders would in a real CDO, for any losses that would have been made on the reference securities beyond those covered by the mezzanine tranche holders.
- “Short” investors bought credit default swaps on the reference securities from Abacus 2004-1, the premiums received by Abacus 2004-1 effectively paying for the CDSs it bought from the funded investors and for the premiums it paid to the unfunded investors.

The end result was that if the assets performed, the funded and unfunded investors would get the same returns as from a real CDO, with the short investors paying the bill. If they failed, then the funded investors initially, and the unfunded investors if things went really badly, would be liable, just as in a real CDO, with the payments going to the short investors. Either way, Goldman took a fee. Since the primary purpose of the synthetic CDO was to meet and make money from the demand for mezzanine tranches, Goldman originally retained a \$1.8 billion super-senior tranche as the main unfunded investor, and also acted as the short investor for the entire deal. It then sold senior tranches to two other unfunded investors, both asset management firms. The funded investors were two banks and the same asset management firm.



Had this been a real CDO, involving a \$2 billion plus outlay of capital to buy the reference securities, Goldman as holder of the super-senior tranche would normally have hedged its position by buying CDSs on those securities. In this case its short position was already larger than its long position, so it had no exposure to hedge, but after about a year, it nevertheless bought CDSs on the entire package of reference securities from AIG for a premium of \$2.2 million a year – a premium of about 0.1%, which gives an indication of how safe mortgages were reckoned to be but was to Goldman, who had growing doubts about the mortgage market, irresistibly cheap. In the end, the assets failed, the funded investors lost almost all their money, the unfunded investors also lost money, and in addition to its fees Goldman made profits of about \$930 million from its credit default swaps, \$806 million of it from AIG (or rather from American taxpayers, once the government had taken over a bankrupt AIG) and the rest from the investors.

### Goldman under attack<sup>3</sup>

The structure of Abacus 2004-1 meant that from the beginning Goldman was selling securities to clients while at the same betting on their failure, but that is what people do when they trade derivatives. It wasn't going out to the investors and saying: "we think these investments are going to perform for you". It was saying to other sophisticated financial institutions: "you want investments with these characteristics, we'll structure a deal that gives you that, effectively by taking the other

<sup>3</sup> This section draws on the Financial Crisis Inquiry Report and a range of news articles including Andrew Ross Sorkin, 'At Goldman, e-mail message lays bare conflicts in trading', New York Times, 13<sup>th</sup> January 2010; and Michael M. Philips, 'Senators seek, fail to get an "I'm sorry"', Wall Street Journal, 28<sup>th</sup> April 2010.

side of the trade". Once it bought the CDSs from AIG, however, it was effectively betting against the investors, and having taken a proprietary view that the mortgage market was at risk it continued to aggressively market mortgage-backed securities, CDOs and synthetic CDOs. And with Abacus 2007-AC1, it arguably went further.

By 2007, the synthetic CDO market had become quite sophisticated, with a number of hedge funds simultaneously buying senior tranches and shorting junior tranches. Goldman was heavily shorting the mortgage market in its entirety (in that respect its judgement was probably the best in the industry) but it was still promoting mortgage backed securities and their derivatives, and indeed pushing the ratings agencies to give them high ratings. This already raised some difficult questions about its responsibilities to clients, but two things particularly incensed people, when they came to public light later. One was that in internal emails Goldman staff members described some of the securities they were promoting as "junk", "shit", or "crappy". The other was the way it put together and promoted Abacus 2007-AC1.

One of the tricky issues in creating a synthetic CDO is what mortgage securities you reference to. The promotional literature for Abacus 2007-AC1 stated that the underlying assets had been picked by ACA Management, an independent CDO manager. It turned out, however, that unbeknownst to the investors ACA had worked at Goldman's request with John Paulson of Paulson & Co, a hedge fund that had been set up specifically to short mezzanine CDO tranches and that was to be one of the short investors, with Goldman, on Abacus 2007-AC1. Paulson and Goldman argued later that the reference asset pool was disclosed to all investors, as was Goldman's own short position, and that the purpose of putting the pool together was not to bias the performance one way or another, which would be counter-productive, but to build a pool that both long and short investors (all of which were financial institutions, so sophisticated investors who should not need any special protection) could agree on. ACA, however, seem to have been unaware of Paulson's position, believing that he was going to take both long and short positions, and emails later published suggest that they were puzzled by some of his views on the reference portfolio, in particular the exclusion of sub-prime mortgages that they thought to be relatively sound.

The SEC action against Goldman charged them with fraud for telling investors that the asset pool was "selected by ACA" when in fact Paulson, whose interests were opposed to those of the investors being targeted, had played a significant role in the process. For the public, the abiding images come from TV footage of Goldman executives appearing before a Senate panel, insisting they had nothing wrong, suggesting that the main problem with the emails was that the views were recorded, and unable to answer straight questions about what responsibilities to their clients meant to them.<sup>4</sup>

---

<sup>4</sup> Much of this footage can be found on youtube.com. Some is also reproduced in the movie *Inside Job*.

## **Observations**

One of the services that investment banks offer their clients is to act as a counterparty for speculative derivatives trades the clients wish to pursue, and for which there is no open market. In such cases the bank acts rather like a bookmaker, or the bank of a casino. In some cases banks very clearly overstep the mark by actively encouraging clients to take up positions from which the bank can only gain and the client is likely to lose. The most shocking examples in recent years have been of the sale of interest rate swaps to clients who neither needed them nor were in any position to value them. In this case, however, the clients were sophisticated financial institutions who should have been able to look after their own interests. Goldman Sachs executives were convinced that the bets their clients wanted to place were bad ones and that they could make a lot of money by taking the other side, and just like a casino owner who sees someone rich and foolish coming his way they saw no reason to discourage them. On the other hand, perhaps the analogy with a casino is not quite accurate ..... What do you think?