

Predicting the Markets

Ed Yardeni

Appendix 8.2

Credit Derivatives: Basic Definitions

Excepted from *The Financial Crisis Inquiry Report*

Overview:

OTC derivatives contributed to the crisis in three significant ways. First, one type of derivative—credit default swaps (CDS)—fueled the mortgage securitization pipeline. CDS were sold to investors to protect against the default or decline in value of mortgage-related securities backed by risky loans. Companies sold protection—to the tune of \$79 billion, in AIG’s case—to investors in these newfangled mortgage securities, helping to launch and expand the market and, in turn, to further fuel the housing bubble.

Second, CDS were essential to the creation of synthetic CDOs. These synthetic CDOs were merely bets on the performance of real mortgage-related securities. They amplified the losses from the collapse of the housing bubble by allowing multiple bets on the same securities and helped spread them throughout the financial system. Goldman Sachs alone packaged and sold \$73 billion in synthetic CDOs from July 1, 2004 to May 31, 2007. Synthetic CDOs created by Goldman referenced more than 3,400 mortgage securities, and 610 of them were referenced at least twice. This is apart from how many times these securities may have been referenced in synthetic CDOs created by other firms.

Finally, when the housing bubble popped and crisis followed, derivatives were in the center of the storm. AIG, which had not been required to put aside capital reserves as a cushion for the protection it was selling, was bailed out when it could not meet its obligations.

Instrument	Description
ARM	Subprime mortgages rose from 8% of mortgage originations in 2003 to 20% in 2005. About 70% of subprime borrowers used hybrid adjustable-rate mortgages (ARMs) such as 2/28s and 3/27s—mortgages whose low “teaser” rate lasts for the first two or three years, and then adjusts periodically thereafter. Prime borrowers also used more alternative mortgages. The dollar volume of Alt-A securitization rose almost 350% from 2003 to 2005. In general, these loans made borrowers’ monthly mortgage payments on ever more expensive homes affordable—at least initially. Popular Alt-A products included interest-only mortgages and payment-option ARMs. Option ARMs let borrowers pick their payment each month, including payments that actually increased the principal—any shortfall on the interest payment was added to the principal, something called negative amortization. If the balance got large enough, the loan would convert to a fixed-rate mortgage, increasing the monthly payment—perhaps dramatically. Option ARMs rose from 2% of mortgages in 2003 to 9% in 2006.
CDO	In the first decade of the 21st century, a previously obscure financial product called the collateralized debt obligation, or CDO, transformed the mortgage market by creating a new source of demand for the lower-rated tranches of mortgage-backed securities. Despite their relatively high returns, tranches rated other than triple-A could be hard to sell. If borrowers were delinquent or defaulted, investors in these tranches were out of luck because of where they sat in the payments waterfall. Wall Street came up with a solution: in the words of one banker, they “created the investor.” That is, they built new securities that would buy the tranches that had become harder to sell. Bankers would take those low investment-grade tranches, largely rated BBB or A, from many mortgage-backed securities and repackage them into the new securities—CDOs. Approximately 80% of these CDO tranches would be rated triple-A despite the fact that they generally comprised the lower-rated tranches of mortgage-backed securities. CDO securities would be sold with their own waterfalls, with the risk-averse investors, again, paid first and the risk-seeking investors paid last. As they did in the case of mortgage-backed securities, the rating agencies gave their highest, triple-A ratings to the securities at the top.

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CDO Squared	Eventually, other CDOs became the most important class of investor for the mezzanine tranches of CDOs. By 2005, CDO underwriters were selling most of the mezzanine tranches—including those rated A—and, especially, those rated BBB, the lowest and riskiest investment-grade rating—to other CDO managers, to be packaged into other CDOs. It was common for CDOs to be structured with 5% or 15% of their cash invested in other CDOs; CDOs with as much as 80% to 100% of their cash invested in other CDOs were typically known as “CDOs squared.”
CDS	Finally, the issuers of over-the-counter derivatives called credit default swaps, most notably AIG, played a central role by issuing swaps to investors in CDO tranches, promising to reimburse them for any losses on the tranches in exchange for a stream of premium-like payments. This credit default swap protection made the CDOs much more attractive to potential investors because they appeared to be virtually risk free, but it created huge exposures for the credit default swap issuers if significant losses did occur.
Synthetic CDO	When firms ran out of real product, they started generating cheaper-to-produce synthetic CDOs—composed not of real mortgage securities but just of bets on other mortgage products. Each new permutation created an opportunity to extract more fees and trading profits. And each new layer brought in more investors wagering on the mortgage market—even well after the market had started to turn. So by the time the process was complete, a mortgage on a home in south Florida might become part of dozens of securities owned by hundreds of investors—or parts of bets being made by hundreds more. Treasury Secretary Timothy Geithner, the president of the New York Federal Reserve Bank during the crisis, described the resulting product as “cooked spaghetti” that became hard to “untangle.”

Source: The Financial Crisis Inquiry Commission's January 2011 [The Financial Crisis Inquiry Report](#), as updated February 25, 2011.