Your Cheat Sheet for *The Big Short*

The big financial meltdown is finally getting its star turn on the big screen with the release of *The Big Short*.

Based on Michael Lewis’s *New York Times* bestseller by the same title, the film tells the story of six contrarian traders who sniffed out the housing crash before virtually anyone else. Their foresight helped them make gobs of money while Wall Street institutions crumbled. Michael Burry, who is portrayed by Christian Bale in the movie, made $750 million in 2007 alone because of the bets he made.1

The film is earning rave reviews and mentions of Oscar nominations, but it’s even better if you understand the wonky details behind the plot. So here is your cheat sheet for *The Big Short*, in three simple questions.

#### 1. Why is Wall Street Involved with Home Mortgages In the First Place?

The linkage between Wall Street and Main Street was, for the most part, established when the finance industry created securitization in the 1970s and was mass-commercialized in the 1980s by the now defunct Salomon Brothers.2 Today, almost 75% of mortgages issued are securitized.3

Securitization works like this. Large financial institutions like investment banks or quasi-government agencies like Fannie Mae first pool together several hundred mortgages. Once these mortgages are pooled, they then issue bonds to investors using those assets as backing. Each month when families pay down their mortgages, that incoming cash is sent to investors who purchased bonds. As homeowners pay down mortgage principal early, refinance their mortgages, or default on their loans, the payments to bondholders fluctuate. The name given to these bonds that investors buy is mortgage-backed securities, or MBS for short.

Finally, these MBS (each containing several hundred home mortgages) are further pooled together to form a “trust” that investors can buy into. The trust can sometimes be specialized so that certain tiers include just the highest quality MBS (those with the safest mortgages issued to the least risky borrowers) and others the lowest (subprime mortgages issued to those with less than stellar credit scores). Investors can then choose which tier to invest their money. Pension funds are required, for example, to be in only Aaa rated bonds and choose only the top tiers. Those with a higher appetite for risk may pick a Bbb rated tranche hoping for higher returns.

Securitization does two things really well: 1) It spreads out the risk of what is an otherwise very risky asset (a mortgage). This, in turn, 2) brings more capital to the housing markets which means mortgages are more affordable for homebuyers.4 That is why even after the financial crisis few advocate for radical change in the mortgage-backed securities market.

#### 2. Short selling, collateralized debt obligations, and credit default swaps: what are they?

Two concepts central to The Big Short are short selling and collateralized debt obligations.

Money is generally made in the market when the value of an asset goes up. But there are ways for sophisticated investors to make money when the value of assets declines, and that’s where short selling comes in.

Let’s begin with what it means when someone “shorts” something on Wall Street. Investors will short a security (a stock or a bond) when they think the price of that product will go down in the future. It works like this:

Step one: the short seller borrows the stock from someone else (the counterparty). At the onset, the short seller will agree to return the borrowed stock, in full, to the counterparty on a specified date in the future—it could be a couple of days, months, even years. Step two: now that the stock has been exchanged, the short seller immediately sells the borrowed stock in the open market. Assume the short seller sells one share at $100. Step three: fast forward to the specified date in the future when the short seller is obligated to return the stock to the counterparty. The short seller uses the $100 in his back pocket from the original stock sale and buys that identical stock on the market at its new price, say $75. If the price has indeed dropped, the short seller wins by returning the borrowed stock to the counterparty and walking away with a $25 profit. But if the price of the stock has risen, the counterparty wins.

This conventional method of “shorting” plays out every day in finance, but it is a simpler version than the method used by the main characters of The Big Short. They used products more complex than stocks, which, in turn, created a more complex short. Moreover, they replicated this complex short many times over resulting in one really “big short.”

A key instrument of this complex short was a collateralized debt obligation, or CDO. A CDO is a sort of mortgage-backed security on steroids. Whereas, MBS are only made up of mortgages, CDOs can be made up of a diverse set of assets—from corporate bonds to mortgage bonds to bank loans to car loans to credit card loans. These loans, from different sources, are then bundled together and then sent back out into the marketplace as new bonds.5 And like some MBS, investors in CDOs can buy into different tiers, ranging from low-risk to high-risk.

Leading up to the crisis, certain investment banks started creating CDOs that included just the lowest rated tiers of mortgage-backed securities. Ratings agencies, nonetheless, rated those CDOs Triple-A. The thought was that while one high risk mortgage may be a bad gamble, thousands of high risk mortgages are a good bet because there’s safety in numbers. They can’t all go south at once, right?

The main characters of The Big Short rejected this herd mentality and began shorting these products. They used derivative contracts called credit default swaps (CDS) issued by companies like AIG to bet against these CDOs. CDS is a fancy term for insurance contracts that allow banks and hedge funds to protect against the risk of a CDO default. For a small fee paid to AIG, hedge fund managers would receive a guarantee that in the “unlikely” event of a CDO collapse, they would still receive a certain return. And in the case of The Big Short, these savvy investors bought just the insurance contract (the CDS) without owning the flawed CDOs they were meant to insure against. In other words, they bought only the insurance that the mortgages would fail without ever owning the mortgage securities or the CDOs themselves. Some have compared this to owning theft insurance on someone else’s home in which you only get paid if they get robbed.

The dominoes eventually fell: homeowners with adjustable-rate mortgages saw their rates skyrocket, they then defaulted on their loans, cash flows to CDOs dried up, CDO managers couldn’t pay their bondholders, and the owners of the insurance contracts (the credit default swaps) got their big payouts.

#### 3. The MacGuffin: The mortgage prospectus.

When a mortgage-backed security is created, investors want details about the underlying assets that make up that security. For MBS, this means the investor will want to assess what mortgages are being packaged together and included in the trust.

An important theme in Lewis’s book is his argument that no one on Wall Street—ratings agencies, investment banks, hedge funds, etc.—was doing their homework and asking the question: what’s behind these securities? Lewis argues that Wall Street was irresponsibly cranking out these products. In the movie, a big moment occurs when Michael Burry (played by Christian Bale), reveals that these assets are a house of cards (actually Jenga blocks).

How did people like Burry find out? One way was by looking through prospectuses. The official name of these reports is SEC Form 424-B5—named after the section of securities law that requires them. Linked [here](http://www.sec.gov/Archives/edgar/data/1119605/000127727705000709/prosupp_20053.pdf) is an example from an offering by Long Beach Mortgage, the now defunct subprime lender mentioned in The Big Short.6 In these 200-plus pages, investors can fish out any necessary information they need about the security offering. For example: types of mortgages included in the trust (page S-21), what years the mortgages were issued to the homebuyers (top of page S-46), and even the state in which the mortgages were sold (right-hand side of page S-3).

One other noteworthy item from our example Form 424-B5 can be found on page S-8. Listed at the top of this page are the credit ratings the credit rating agency provided this offering when it was created in September 2005. As noted in the prospectus, Moody’s (and every other rating agency) stated that the best securities coming from this offering (i.e. I-A) deserved their highest, “immune-from-default” rating, Aaa. Today, in 2015, these securities are still alive, except for one difference: Moody’s has since [adjusted that rating](https://www.moodys.com/credit-ratings/Long-Beach-Mortgage-Loan-Trust-2005-3-credit-rating-400037874) to junk, Ca, which means default is imminent and there is little prospect for recovery.