

The Subprime Crisis *Explained*

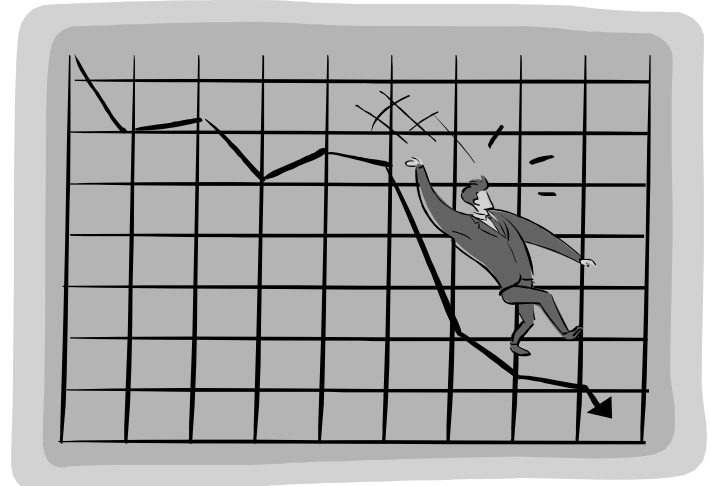
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IT BEGAN WITH LOW INTEREST RATES

Beginning in 1998, there was a run up in stock prices of technology companies and the so-called “tech boom.” Fueled in part by large one time expenditures by businesses concerned about speculation that the “Y2K problem” on January 1, 2000 would cause computer systems to seize up, technology companies saw unsustainable increases in revenue. At one point during this period, Nortel represented one-third of the entire value of the Canadian stock market.

This boom collapsed in early 2000, leading to the so-called “tech wreck” in the stock market, a collapse in spending on technology and a mild recession in 2001; to this was added the disruption and uncertainty after the 9/11 bombing of the World Trade Center.

Alan Greenspan, head of the U.S. Federal Reserve Board – responsible for setting American interest rates – grew concerned about the downturn in economic activity. To prevent this situation from worsening and to stimulate economic growth, beginning in 2001 he started to dramatically drop interest rates. By 2003, the Federal Reserve Board’s key interest rate fell from 6.5% to 1% and



stayed there for a year before beginning to gradually rise.

AND THE HOUSING MARKET RESPONDED

In a recent New York Times article, the collapse of housing prices which precipitated the subprime crisis is summarized as follows: “*The housing implosion is a story of lax regulation, financial innovation gone awry, excessive debt and raw greed.*”

Spurred by low interest rates, mortgage lenders in the U.S. started marketing to lower income households. They were encouraged to do so by the introduction of “securitization” of mortgages – instead of keeping mortgages on their books and relying on homeowners to pay them down,

large numbers of mortgages were bundled together by investment firms and sold to banks and other investors.

Since lenders were no longer on the hook if the homeowners taking out the mortgages defaulted, lending standards were relaxed across the board – initially a little bit, then as competition to sell mortgages increased, the standards to get a mortgage became looser and looser. This led to “subprime” mortgages – lending at higher rates to people who would normally never qualify for lower cost “prime” loans. Because the mortgages didn’t stay on the lender’s books, there was little real concern about borrowers’ ability to repay the mortgages.

Meanwhile, there was lots of political support for anything which would allow lower income households to own their own home and get a piece of the American dream. Home ownership has long been part of the American psyche, but low income households, many of them visible minorities, were often denied access to mortgages. In the mid 90s, there was a push to ease the rules for first time home purchasers under the Clinton administration’s National Home Ownership strategy; expanding home ownership was also a centerpiece of George Bush’s agenda as president.

Almost every possible rule was relaxed to give lower income households access to financing insured by government agencies Fannie Mae and Freddie Mac. Proof of income for loans was reduced from five years to three. Traditional barriers to buying

a home were relaxed – houses were offered with low or no down payment and no closing costs. Mortgage lenders no longer had to interview buyers face to face. Rules were changed so lenders didn’t have to use government appointed appraisers to set the home value for the mortgage but could select their own – as a result, lots of cases have materialized of inflated and sometimes fraudulent appraisals.

Large mortgage lenders focused on the subprime market sprung up, such as Countrywide, IndyMac, Golden West and Household International. As competition increased to provide mortgages to people with low incomes, the percentage of a home’s value that could be obtained via a mortgage steadily went up – ultimately borrowers could get a mortgage for 100% of the appraised value.

Innovations abounded. There were mortgages with “teaser rates” (where interest rates were as low as 1% initially but then went up to 8%), “negative amortization mortgages” (in which monthly payments were less than the interest, leading to the balance owing going up rather than decreasing), “liar mortgages” (in which the information provided by applicants was not checked) and so-called “NINJA mortgages” (No income? No Job? No problem.) In addition, “piggyback loans” were offered to cover mortgage insurance and closing costs, so people could move into a home with absolutely no money down.

Prompted by the low initial payments, renters were encouraged to purchase homes

and take on mortgages they could never hope to afford – in some cases urged on by individuals making the loans who received commissions on each mortgage placed.

These home buyers did so in the hope that housing prices would go up enough that by the time the higher rates kicked in they could either sell their house for a profit or cash in on the gains through loans against their home equity (something else that exploded through this period.)

Another important element that fueled this boom: Unlike Canada, if the value of a mortgage exceeds what a house is worth, Americans can walk away from the mortgage without repercussions by “mailing the keys” to the bank. In essence, many of these subprime borrowers had nothing to lose - they hadn’t put any money down and would make a profit if housing prices went up, if prices declined they would have lived in the house for less than it would have cost to rent and could then simply walk away.

All of these factors taken together led to a boom in lending to “subprime” borrowers who would not have qualified for mortgages in the past – a recent report by Standard and Poors indicates that today 25% of U.S. mortgages are in the subprime category. In large part due to the elevated demand from unqualified buyers who came into the market and from people buying homes way beyond their means, the early part of this decade saw housing prices increase at an accelerated rate – in what turned out to be a mini bubble.

The market became especially overheated in places like Arizona, Florida, Las Vegas and California. Builders drastically ramped up construction to meet the demand and prices of raw land escalated rapidly. Prices of homes started to rise quickly, spurring a mini panic among buyers “to get into the market” similar to what was experienced in many Canadian cities in the late 80s.

According to data produced by Yale economist Robert Schiller, average U.S. housing prices almost doubled from 2000 to 2006 – although in the hottest markets they rose much more.

WALL STREET GOT INTO THE ACT

This unsustainable boom was all made possible by investment bankers who, having bought the mortgages, began to bundle them into a variety of exotic instruments. Using large amounts of debt, investment vehicles were created offering premium interest rates to financial institutions and other investors who bought them. This was possible in part due to a bill signed by U.S. President Bill Clinton in 1999 loosening the restrictions on Wall Street firms.

Some of the world’s brightest financial minds developed turbo charged computer models to construct these investments. These models were driven by the low historical default rates on mortgages and generally based on the underlying principle that because national U.S. housing prices had not fallen since the depression in the 30’s, they could never fall going forward. Nassim Taleb’s book “The Black Swan” points out the fatal flaw in this reasoning – just because something has never been

observed (like black swans, which only exist in Australia) doesn't mean that it's not possible.

Another contributor to the problem: Bond rating agencies such as Moody's and Standard and Poors – whose job it is to provide an objective rating of how safe an investment is – dramatically misread the risk in these derivative instruments, giving some of them their highest rating of AAA. This rating enabled them to be bought by institutions with conservative mandates, comforted by the high rating and attracted by the higher yields in these derivative products. (These investors overlooked one of the oldest maxims in financial markets: *"If it seems too good to be true, chances are it is."*)



The reason these complex vehicles are called derivatives is that their value is derived from an underlying investment. Typically, large amounts of borrowing were involved in these derivative instruments – in 2003, master investor Warren Buffett warned against derivatives as being “financial weapons of mass destruction.” In fact, at the core of today's problem is the fundamental misunderstanding and

mispricing of the level of risk in these investments, combined with the failure of the regulatory bodies charged with oversight to adapt to the new products being developed.

In some instances, insurance companies such as AIG sold insurance against these mortgages defaulting – as it turned out, some of the firms that sold the insurance did not have enough funds when called on to back up mortgages that ran into trouble. (CIBC took a large writeoff earlier this year because a firm from which it had purchased insurance against mortgage defaults didn't have the financial resources to cover the losses).

While this trend was most pronounced in the United States, similar patterns took place in other markets that had superheated housing markets such as the United Kingdom, Spain and Australia.

As a result of the escalation of mortgage lending and the packaging of these mortgages by investment bankers into an alphabet soup of esoteric structures (with hefty profit margins along the way), profits by financial institutions rose dramatically. Many banks shifted their business model from making money on the “spread” between the cost at which they could source money (from retail deposits and low cost loans from other banks) and the rate at which they could lend that money to consumers and businesses; increasingly they focused on the more generous margins available from originating complex financial vehicles.

In many cases, the people responsible for developing, packaging and selling these instruments and the CEOs of the firms that created them received millions of dollars of bonuses as a result – all this without a good understanding of the real risks in the underlying investments that made these profits possible. In fact, due to the complexity and lack of transparency of these products, even those who created them often didn't appreciate the level of risk that had been built in to generate the higher returns these instruments promised – and how horribly wrong they could go if some of the underlying assumptions proved wrong.

It's now clear that many financial institutions had "bet the farm" on real estate prices continuing to rise. This bet was even bigger than it appeared on the surface because investment banks often kept the highest return – and riskiest – parts of the instruments they built on their own books rather than selling them to investors. As well, in many cases if a mortgage went into default, the investors who purchased these instruments could return that particular mortgage to the firm who had sold it to them and get the money they'd paid for that loan back.

CRACKS STARTED APPEARING

Two years ago, in 2006, as concerns developed about the economy overheating, the Federal Reserve Board raised interest rates to slow the economy down. In response, the housing market started to slow as well - as the cost of borrowing went up, the large volume of new houses coming on stream pushed down prices and we started

seeing an increase in defaults on mortgages. In the spring of 2007, the first sign of a crack in the system appeared, as one of Wall Street's leading investment banks reported massive losses in some of its investment funds.

In the summer of last year, the French bank BNP Paribas froze withdrawals from some of its investments, due to difficulty getting an accurate reading on their value. In the fall, the large British mortgage lender Northern Rock was nationalized after rumours of financial difficulty made it impossible to refinance some investments that came due and the British public began withdrawing deposits.

Throughout last year, U.S. housing prices continued to soften and see declines – leading to an increase in mortgage defaults. This led to the collapse this spring of Wall Street icon Bear Stearns, which had made a big bet on U.S. mortgages, when other banks lost confidence in its financial situation and stopped lending to it. As a result, it was acquired by the large retail bank JP Morgan, which received \$29 billion in guarantees on some of Bear Stearns' assets by the U.S. government.

AND PROBLEMS ACCELERATED

By early 2008, the drop in housing values had led to a growing level of mortgage delinquencies – in some markets, prices declined by 30% to 50% compared to the same time the year before. This drop also started having an impact in the broader U.S. economy as a dramatic drop in construction and a decline in consumer confidence had

cascading effects in retailing and other sectors.

In the summer of this year, rising mortgage defaults caused the near collapse and ultimately the nationalization of two massive U.S. mortgage lenders – Fannie Mae and Freddie Mac. These were quasi governmental agencies with the mandate of easing home ownership, that backed half of all U.S. mortgages and whose debt was guaranteed by Washington.

September saw the financial crisis accelerate. On one weekend, between Friday September 12 and Monday September 15, three of the largest U.S. financial institutions changed hands – Merrill Lynch was acquired by Bank of America, AIG required a bailout by the Government and Lehman Brothers was allowed to collapse entirely.

In every case, the problem was large amounts of funds borrowed to purchase those shaky mortgage investments – in some cases \$30 was borrowed for every \$1 of equity put into these investments. As a result, when the value of these mortgages started declining, losses spiraled up rapidly.

TODAY'S CREDIT CRUNCH AND BAILOUT

In light of the uncertainty in financial markets, we have seen a “flight to safety” in which financial institutions are now

investing in only the safest vehicles. There has been a dramatic drop in willingness by banks around the world to lend even to each other, due to the possibility of defaults.

Where banks are lending to each other, the perceived risk and resultant cost has gone up dramatically – the premium for the rate at which banks lend to each other over the interest rate on U.S. short term government debt (this difference is what the banking industry calls the “TED spread”) has risen from one quarter of a percent to over three percent. At one point, due to strong demand

the interest rate on short term U.S. treasury bills (generally seen as the safest form of debt available) was zero – institutions were so concerned about safety at any price, they were willing to forego any

return on their investment to be assured their money was secure.

At the same time, fears of an economic slowdown have made all lenders more cautious. As a result, there has been a global pull back on availability of credit to companies and individuals – the so called “credit crunch.” Since September, banks have started reducing credit card limits for many customers and cutting back on lines of credit for numerous businesses.

In response to these problems, the U.S. Secretary of the Treasury, Henry “Hank”



Paulsen (who had previously run the hugely successful Wall Street investment firm Goldman Sachs) introduced a “Troubled Assets Relief Program” (or TARP) to purchase \$700 billion of bad debts from U.S. banks.

This was mistakenly referred to in the media and by politicians as a “bailout” in which the financial institutions were getting more than these debts were worth. In fact, the arrangement had the Government buying these investments at their true worth on the market for pennies on the dollar. This program was initially rejected by Congress and was ultimately passed after political negotiations to introduce greater protection for homeowners defaulting on mortgages and restrictions on compensation to executives of the financial institutions being rescued.

As the fall progressed, a “contagion effect” kicked in as more and more financial institutions in the U.S. and around the world started reporting problems due to bad debts. For example, the Swiss bank UBS has reported accumulated write offs of more than \$40 billion.

As a result, Great Britain, France, Germany, Spain, Australia, Ireland, Iceland, Belgium, the Netherlands and the U.S.(among other countries) invested in banks to increase their capital levels and ensure their survival – to this point \$3 trillion has been injected into the financial system by governments around the world. Governments also stepped in to guarantee deposits into these banks, so as to reassure consumers that their investments

were safe; one of the reasons for the economic depression of the 1930s was banks collapsing because consumers lost confidence in them.

It’s worth noting that Canada is one of the few countries that has not seen serious problems among its banks – while there have been some write offs, these have not had a fundamental impact on the banks’ creditworthiness and the World Economic Forum recently ranked Canadian banks as the world’s soundest. Notwithstanding the strength of Canada’s banking system, there have also been some media reports that the Canadian government may guarantee all deposits in banks to reassure concerned investors.

WHERE WE GO FROM HERE

The uncertain situation in which we find ourselves these days has caused historically high levels of stock market volatility and a substantial drop in share prices in Canada and around the world – depending on the market, share prices are down 30% to 60% from one year ago.

There is universal consensus that the U.S. is either in a recession already or about to enter one (fueled in part by extreme pessimism among American consumers) – and that this will spread to other countries. US unemployment levels are on the rise and consumer confidence has dropped to record lows, as Americans see the value of their homes continue to decline.

As a result, the auto sector has been particularly hard hit and initial indications

for retail sales this Christmas are extremely weak. There is also growing concern that delinquencies on mortgages will spread to car loans and credit card debt and that a slowing economy will lead to writeoffs on loans to businesses, especially those in the real estate, construction and retailing sectors.

Continued weakness in the U.S. housing market is a particular problem. Housing prices have continued to drop, in part as a correction from unrealistically high levels in past years, in part due to the overhang of unsold houses built during the boom period and an increasing number of foreclosed houses being put up for sale. It will take some time to work through the excess inventory of houses on the market – in the meantime, there has been a dramatic slump in new housing starts, a key driver of the American economy.

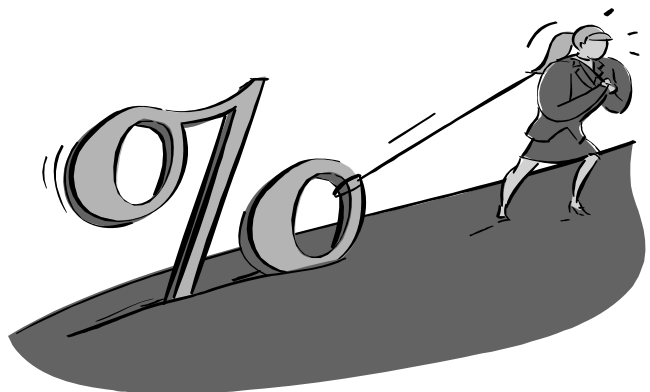
To this point, Canada has continued to see economic growth, albeit at a slowing rate – but the U.S. slowdown has already spilled over into this country. Recent reports indicate confidence and spending plans by Canadian consumers have dropped dramatically, there is growing sentiment that Ottawa will be running deficits in the period ahead and the Bank of Canada has recently revised its growth estimates for the economy downward through to the end of 2010.

As a result of forecasts for reduced economic activity around the globe, prices of oil and other commodities have plummeted. While generally good news for most economies, this will inevitably have

negative effects on Alberta and Saskatchewan and has put additional pressure on the Canadian stock market, which has a large proportion of oil and resource companies.

Going forward, there is universal agreement by governments and central banks around the globe on the need for coordinated action to keep the financial system working. We have already seen a significant drop in interest rates – with the chances of more to come. (The good news is that low inflation means that central banks can cut interest rates without being concerned about the economy becoming overheated.)

Governments have intervened to keep financial institutions solvent and have injected funds into the economic system to help contain the credit crisis. One byproduct from the financial problems has been a push to introduce new structures to regulate and coordinate the global economy. We've also seen dramatic consolidation in the banking sector – as banks around the world that got overextended have been acquired by more conservative competitors; this has resulted in a banking industry with fewer, stronger players.



Another outcome is a drastic reduction in the appetite for risk by financial institutions. As a consequence of the events of 2008, there have been fundamental changes at all five of the large U.S. investment banks that were at the heart of creating the subprime problems; one has collapsed, two have been acquired and the remaining two have been restructured in a form that will entail much greater Government oversight.

Ultimately, the key to a turnaround will be a return of confidence – confidence among financial institutions in lending to each other and to their customers, confidence by companies in investing in plants and equipment, confidence by consumers in returning to normal levels of spending.

This process will take some time – there is a general view that it will take twelve to twenty four months and perhaps longer. In the mid-term, it is likely that Americans will put greater emphasis on saving versus spending – there have already been signs of an uptick in savings rates from historically low levels, something that will ultimately be healthy for the U.S. economy.

Despite the short term challenges ahead of us, there are lots of reasons to believe that the mid and long-term prospects for the economy and for the stock market continue

to be positive. Among these are the impact of technology on productivity and profitability, the continuing growth of developing markets like China and India and the beneficial effects of rising global trade.

No less an authority than Warren Buffett recently indicated that he is moving his personal investments into U.S. stocks. In his October 17 article in the New York Times, Buffett made a bullish mid term case for U.S. stocks. He also pointed out that in past recessions, markets have turned around well before the economy does and that by the time the economy rebounds, the best investment opportunities have been missed.

By many traditional measures, stock valuations are approaching historic lows – for investors with the right timeframe and the financial and psychological wherewithal to hang in through ups and downs, standard measurements of value indicate the current environment represents a buying opportunity unmatched since the early 1980s, when a similar mood of profound pessimism prevailed.

Investors who took the plunge in the early '80s have done extremely well, even after the market pullback this year. And a strong case can be made that investors who take the plunge today will be similarly rewarded.