Subprime Mortgages and the Recent Financial Turmoil

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It is often said that bankers have short memory; hence they repeat their errors. We have witnessed a major financial crisis every ten years over the last three decades. In the 1980's the savings and loans debacle cost US tax payers US$200 billion. In the 1990's the Asian financial crisis bankrupted many Asian banks and corporations. Today, problems emanating from strained US subprime mortgages have led to a credit crisis.

The subprime mortgage blow-out surfaced in June 2007 with the collapse of two hedge funds managed by Bear Stearns. It quickly affected financial markets worldwide and reached crisis proportions in August-September when money markets temporarily froze up, halting the lifeblood of the banking industry. That immediately prompted the European Central Bank and the Fed to pump in $100 billion of liquidity into the system, action they have repeatedly undertaken since then.

Nervousness in money markets, as measured by spreads of LIBOR above Treasury yields, subsided temporarily, but has since come back with a vengeance. Interbank borrowing is more expensive than borrowing from the authorities because no private entity wants to part with its cash, and the premium has been close to the all-time high set during the 1987 stock market crash.

Subprime Mortgage

A subprime mortgage simply is a home loan to borrowers with weak credit. Mostly, they feature a so-called teaser-rate, a minimal – often zero – down payment and lax credit checks. Lenders recoup their money by substantially increasing interest rates after an initial period. Between 2004 and 2006, $1.5 trillion (15% of US total housing loans) of high interest rate mortgages were booked. These subprime loans were fine as long as the housing market continued to boom and interest rates did not rise. The median house price jumped 40% to $234,000 between 2000 and 2006. The ratio of the median house price to the median household income rose from a historically stable ratio of 3 (between 1970 and 2000) to 5 in 2006.

This was not sustainable. House prices tapered off and started to decline from 2006 and fell more sharply in 2007. Concomitantly, default and foreclosure rates rose. In 2006, 1.2 million household loans were foreclosed, a number expected to double to 2 million this year. The default rate is expected to rise when 2.5 million adjustable rate mortgages reset higher in the next 18 months.

As house prices escalated, and as long as buoyant conditions prevailed, borrowers could always either refinance or sell with profit before higher interest rates kicked in. And, as house prices escalated, homeowners piled on more debt by taking out home equity loans, which reached a high of $700 billion, or 5% of US GDP, in 2004.

So what brought this party to a halt? Housing markets go through booms and busts. This latest US housing boom was fuelled by low interest rates and excess liquidity. The Fed dropped the short term interest rate to 1% in 2003. Long term interest rates were low as countries like China and Japan accumulated huge trade surpluses and funded US private and government consumption. In other words, emerging countries were financing the spending binge of US consumers.

Why should defaults and foreclosures of subprime mortgages in the US concern us?

First, financial and technological innovations in the past few decades have simultaneously globalized and 'shrunk' the international financial system, possibly increasing the risk of contagion. Certainly, the financial products associated with subprime mortgages have been distributed far and wide.

Second, financial innovation and the liquidity bubble have lulled players and regulators to accept higher levels of leverage, and fostered risk transfer and dispersion, often to non-bank (and therefore unregulated) entities such as the now infamous structured investment vehicles (SIV). As a result, the risk for the system as a whole increased, intensifying volatility and fragility of the international financial system. Thus, what started as a crisis in the subprime mortgage industry soon became a credit crunch in other areas, such as private equity, leveraged buy-outs, conduits, commercial paper and money markets.

Third, and for the aforementioned reasons, the decline in the US house prices and industry will have serious effects on the real economy, which in turn will negatively affect the rest of the world.

Financial Innovation: Securitization

An important financial innovation of the 1980s was the securitization of assets. Simply put, it means to bundle individual assets—a bunch of housing mortgages, or student loans, corporate loans, or car loans, etc.—together into a security, such as a bond, and selling them to investors; hence, the term asset backed securities (ABS). This is also known as the "origination-distribution" model. Securitization enabled banks, the originators of these loans, to take on more loans as they moved the securitized loans off their books. This is supposed to transfer some of the risks away from the banking system to other parts of the financial system. But these risks did not disappear; they were just dispersed, and encouraged more leverage and risk taking.

In the 1990s, financial innovation took these ABS to a higher level of complexity and leverage with the introduction of collateralized debt obligations (CDOs). CDOs are financial instruments derived from bundling a class of ABS into a special purpose vehicle and then rearranging these assets into different tranches with different credit ratings, interest rate payments, and repayment priority.

An investor, depending on his risk appetite, can choose which tranche to invest in. The AAA tranche pays the lowest interest rate, but provides highest priority in terms of debt repayment. The volume of CDOs issued tripled between 2004 and 2006 from $125 billion to $350 billion per year, and CDOs were widely distributed. Not only banks, but also staid establishments, like town councils in far flung places like Australia, bought them. Bank of China has $9 billion in subprime CDOs. Two German state banks investing in CDOs would have gone bankrupt had they not been bailed out by the government.

As subprime borrowers in the US began to default, investors in the subordinated tranche of subprime CDOs took the first hit. This led to a loss of confidence, even among investors in the safer tranches who had not yet experienced any loss. As they rushed for the exit, investors panicked and prices spiraled further downward.

Maturity Mismatch

To make matters worse, originators of such mortgages engage in the classic strategies of leveraging and mismatched funding. Borrowing on a short-term basis (at lower interest rates) and investing those funds in long-term assets (at higher interest rates and risk) allow for profits due to the interest rate differential. Such a strategy is profitable as long as the short-term interest rate is lower than the long-term rate, but when economic conditions change, and the short-term rate rises or risk assessments change, profits quickly evaporate.

This is exactly what happened to the savings and loans industry in the 1980s. The same thing occurred in the 1990s when Asian banks and corporations played the maturity mismatch game. They borrowed in US dollars at a lower interest rate and invested in local currency assets offering higher yields. The going was good until the dollar appreciated and many borrowers went bust.

Today, this problem haunts financial institutions that pursued such strategies, i.e. mortgage companies, conduits, and banks including those like Northern Rock who have no exposure to the subprime mortgages. Despite the financial innovations of the last two decades, the underlying problems of leveraging and funding mismatch have been repeated.

Real Consequences

The subprime mortgage fall-out also threatens the real economy. A modern economy is essentially credit driven. The total amount of debt in the US as a percentage of GDP rose from 150% in 1969 to 240% in 1990 and 340% in 2006. US total debt now stands at $45 trillion. US economic growth has been powered by households, as consumption has grown to 70% of GDP, made possible by the perceived increase in household wealth, consisting significantly of house ownership. US consumers felt rich when house prices rose and took out home equity loans to spend.

Now, as house prices begin to tumble, the reverse happens. Home equity loans shrink, consumer confidence plummets, and consumption declines. This could drag the country into a recession, possibly affecting the rest of the world. US consumption still accounts for 20% of the world's GDP. While some argue there is a decoupling of the emerging market economies from the US, it remains to be seen to what extent that is true.

The central banks of various countries have stepped in to support specific financial institutions, assist the ailing housing industry, and support the battered finance industry by pumping liquidity into the economy. Initially, the stock markets were cheered. Then, they went on a roller-coaster ride. Now, despite the second rate cut by the Fed, stock markets are still tumbling.

There is historical evidence to indicate that such liquidity pumping serves to create another bubble down the road, sometimes referred to as the rolling bubble. US Treasury Secretary Paulson, a former Wall Street banker, warned that the problem is not short term, and will likely be with us for a while.

Policy Implications

The erosion of the Glass Steagall Act enabled banks to take on higher risks. New players in capital markets, like hedge funds, private equity and SIVs, are able to leverage and increase the level of risk for the financial system as a whole through financial innovations and credit support from banks. They engage in activities and instruments that lack transparency and regulation. This poses important challenges for policy makers to come out with the right mix of regulation to cover not only banks, but also other financial institutions.

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