Strategic Insights
from the Chief Investment Officer

August 20, 2007 P. Michael Jones, CFA

The Credit Crunch -- Causes and Potential Implications

Executive Summary

Equity and credit markets have suffered through a tumultuous period in recent weeks. Less than a month ago, the equity markets were making new highs on an almost daily basis, and market volatility was extremely low by historic standards. Outside the equity markets, loans were freely available at low rates to even the weakest borrowers. Over the past three weeks, credit problems among the least credit worthy home buyers – the so-called "sub-prime" borrowers – have escalated into a full blown crisis across Wall Street. Equity market volatility has increased significantly, to the point where the Dow Jones Industrial Index has moved up or down by more than 100 points in 12 of the last 16 trading days. Large segments of the credit markets have simply ceased to function, with even traditionally strong borrowers unable to secure new loans. This sudden reversal in market psychology and increase in volatility prompt us to ask several questions:

1. Why have problems in the sub-prime mortgage market spread to almost every financial market?
2. What are the implications of the current conditions in the credit markets for the economy and interest rates?
3. What is our outlook for the equity markets, and what actions do we think investors should take in this market environment in an attempt to mitigate risks and/or capitalize on opportunities?

Each of these questions will be addressed in detail in the body of this report, but our summary response is that **we believe that some investors have underestimated the risks of certain structured finance securities (collateralized debt obligations [CDOs], collateralized loan obligations [CLOs], etc.)[1]. By under-estimating these risks, we believe investors created an artificially high demand for risky loans that has recently come to an abrupt end.** The sudden price collapse in these markets ensures that many investment banks, hedge funds and investment portfolios are likely to sustain significant losses. Uncertainty over the magnitude of these losses has cast a pall of fear over every financial market, hitting the credit markets especially hard. **We believe turmoil in these key markets will likely cause economic growth to decelerate, but it could also lead the Fed to lower interest rates.** Equity markets are currently caught in a tug-of-war between the bad news of weaker economic growth and less frenzied leveraged buyout activity, and the potential good news of lower interest rates. **We believe the ultimate impact of the current crisis is an end to exuberant equity markets, but not an end to the bull market that began in early 2003.** We expect the market to settle back into the 5% to 10% returns that characterized much of the past four years ("Boring but Up"). Since our relatively optimistic forecast is highly dependent upon anticipated actions by the Fed, we think investors should be aware of the key technical support levels for the market and have a plan in place should these levels fail to hold.

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[1] *Structured products entail a number of risks including, but not limited to, potential loss of principal; market value and interest rate fluctuations due to numerous factors, some of which may be unpredictable; the risk that the issuer will default on interest payments or principal repayment; limited appreciation potential on many issues; and a potential lack of liquidity. Additionally, some securities may be callable by the issuer under specified conditions, resulting in the termination of planned future income and subjecting the investor to reinvestment risk. It should be noted that the price at which the security may be called could be less than par and may not include accrued but unpaid interest. Investors should consult with their tax advisor concerning the tax treatment of structured products which could vary significantly from that or more traditional investments. An investor should carefully read the prospectus or other offering documents for a more complete discussion of these risks as well as the costs of investing in structured products and disclosure of potential conflicts of interest that could arise from the various roles that Wachovia may play in bringing a structured product to market and which could affect the value of the structured product.*

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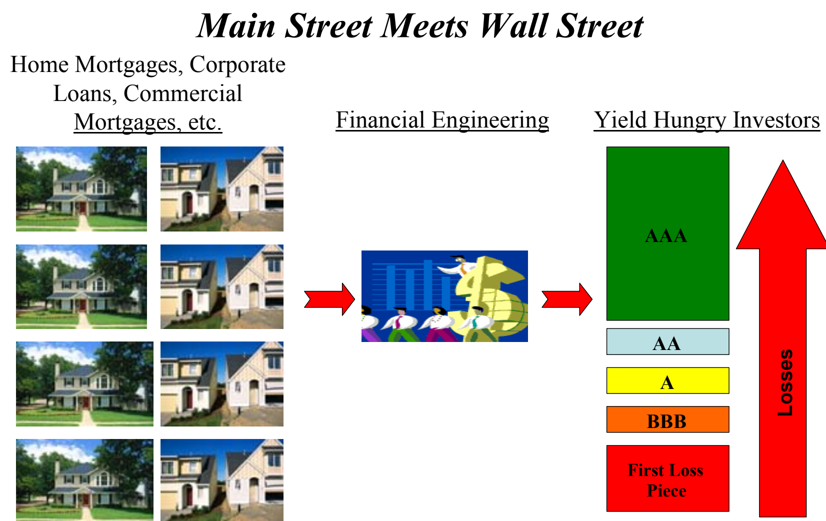
Question 1: Why have problems in the sub-prime mortgage market spread to almost every financial market?

Press reports have repeatedly attributed the current turmoil on Wall Street to problems in the "sub-prime" mortgage market. Sub-prime mortgages are loans extended to borrowers with relatively poor payment histories, and the number of defaults on these mortgages is currently escalating sharply. Essentially, people with a history of not paying their debts are currently not paying their debts. To understand how this rather unsurprising outcome has created such turmoil in the financial markets, investors need to be familiar with some of the new structured finance products that have become popular in recent years. Understanding these products will help to explain why problems among low income home buyers have had such a profound impact on Wall Street.

CDOs: Turning Lead into Gold

In the middle ages, alchemists searched for a way to turn lead into gold. In modern times, financial engineers have apparently achieved the alchemists' goal by turning low quality loans into high quality, AAA rated bonds. The financial engineers achieve this feat by packaging loans into a "structured product." These structured products are known as Collateralized Debt Obligations (CDOs), Collateralized Loan Obligations (CLOs), Collateralized Mortgage Backed Securities (CMBSs), or any of a number of similar titles and initials. Whatever the name, the "magic" within these structured products resides in the way they allocate the inevitable defaults and losses on the underlying loans.

As shown in the chart below, financial engineering creates AAA bonds out of unrated loans by creating senior bonds and more junior securities. Any losses on the loan portfolio are first allocated to the most junior security, the First Loss Piece. If losses exceed the value of the first loss piece, the losses are then allocated to the next most junior bond in the structure (in the chart below, this is the "BBB" bond). Losses are successively allocated up the structure until, if losses exceed the total amount of junior bonds, the AAA bonds receive losses. The total amount of junior bonds is set at a level that the ratings agencies believe will insulate the AAA bonds from losses even in a "Great Depression" level of credit defaults.



This information is hypothetical and is provided for informational purposes only. It is not intended to represent any specific investment.

The risks for AAA investors and First Loss buyers are fairly clear. AAA investors are insulated in this structure from all but severe credit defaults. First Loss buyers, on the other hand, know that they will inevitably receive significant losses and are hoping that losses will be small enough and occur late enough that they will likely make money on the investment. The rated bonds in between the AAA and the First Loss, however, carry subtle but significant risks that make these bonds very different from more traditional bonds with comparable credit ratings.

The rated bonds in between the AAA and the First Loss are often referred to as "mezzanine" bonds. These mezzanine bonds are usually fairly thin slices of the overall structure. The BBB bonds in the above example are only about 4% of the overall deal. If losses exceed the amount of First Loss protection, the BBB piece would receive 100% of the losses on the underlying loans. Thus a $4 million bond could potentially absorb the losses on $100 million in loans. This means that once the First Loss is exhausted, a 1% loss on the underlying loans would result in a 25% loss on the BBB bond (1% / 4% = 25%). Investors in traditional bonds do not typically expect to lose all of their money upon default. (Recovery rates in bankruptcy vary, but 35% to 40% is a typical market assumption.) Because of the tremendous leverage within mezzanine bonds (25 to 1 in the above example), if losses occur the investor is very likely to be completely wiped out. This leveraged loss potential means that if the credit quality of the underlying loans proves worse than expected, the credit rating and therefore the market price of mezzanine bonds can fall much more rapidly and more dramatically than traditional corporate bonds with comparable credit ratings.

Understanding the Risks

CDOs have revolutionized the lending markets and are, in our opinion, one of the most important and positive financial innovations in many years. However, we believe that some investors in CDOs may have failed to fully appreciate the leveraged risk within these securities. If investors did not fully understand how quickly risks escalate if defaults are above expectations, they may have been willing to pay too much for the bonds issued by the CDOs. This gave CDO issuers an incentive to obtain loans so that they could create more CDOs, and thereby earn the difference between the price of the loans and the price at which they could sell the CDO bonds. The demand for loans to feed into the CDO machine became so great that loans were originated at interest rates and with credit terms that may not have reflected a rational analysis of the underlying risks. As long as the CDO buyers remained unaware or unconcerned about the leveraged risks within these securities, loans were available in seemingly limitless supply at terms that appeared to be extremely favorable for the borrower.

This frenzy of lending and CDO creation was brought to a sudden halt by problems in the sub-prime mortgage market. Due to rate increases on adjustable rate mortgages, poor underwriting, and possibly even fraud, sub-prime mortgages over the past year have experienced delinquencies and losses far in excess of expectations. With credit losses mounting, investors started to experience rapid declines in credit ratings and market prices on their sub-prime CDO securities. These investors may or may not have understood the leveraged risks in these bonds when purchased, but catastrophic price declines in recent months alerted even the most uninformed investor as to the risks within their CDO investments.

With losses mounting in their sub-prime CDO portfolios, many investors may have realized that these same leverage risks exist within every CDO structure. Having gained, through bitter experience, a thorough understanding of the impact of leverage on CDO structures, many investors have stopped buying any CDO irrespective of the type of collateral. This sudden buyers' strike for any type of CDO has transmitted the problems in the sub-prime market into almost every lending market. The market has almost ceased to function for corporate loans, commercial mortgages, and even jumbo mortgages made to "prime" borrowers with good credit histories. Prices for these loans and the CDOs backed by these loans have recently plummeted. Hedge funds, mutual funds and other investors have experienced significant losses despite the fact that, aside from sub-prime mortgages, delinquencies and losses for most loan types remain low.

CDO issuers, including many of the major commercial and investment banks, are suddenly stuck with loans that no one will buy. They are scrambling to find funding for loans that that they had planned to package and sell. Saddled with existing loans that are rapidly falling in value, most lenders have no appetite for making new loans of any sort. Since lending is the life blood of virtually every modern economy, this freeze in global credit markets is a significant threat to economic growth. Thus, through the CDO structure, problems in the sub-prime mortgage market have apparently escalated into a full blown financial crisis. Excessive confidence has been replaced with irrational fear.

Question 2: What are the implications of the current conditions in the credit markets for the economy and interest rates?

Wall Street's binge of risky lending has resulted in the markets waking up with a bad hangover. The next several weeks will, in our opinion, determine how severely current market conditions have damaged future economic growth. Sub-prime and other non-traditional mortgages accounted for 40% of the mortgages originated in 2006. These mortgages are simply unavailable given current market conditions, and we see little prospect for this type of lending to resume any time soon. As a result, we think the housing market is likely to take another turn for the worse. Consumer spending and overall economic growth in the U.S. will weaken, in our opinion. These effects are, in our view, an inevitable consequence of the housing and lending bubble. What is not inevitable is the additional economic damage that could potentially be done if the current credit market paralysis continues.

Increased underwriting and pricing discipline was desperately needed in the credit markets. Accordingly, a credit correction that results in less risky lending and more rational pricing of risk is a healthy development for the economy. However, the speed of the correction and the extent of past abuses have combined to potentially transform a credit correction into a credit crunch. In a credit correction, loans are available to qualified borrowers; they just cost more. In a credit crunch, loans are unavailable to anyone at any price. Current market conditions increasingly resemble a credit crunch, in our view. Most people can hold their breath for a minute or two without any harm. Similarly, the economy can survive without thriving credit markets for a limited period of time. However, just as a person must soon gasp for air or pass out, the economy must soon begin receiving a free flow of credit, or it is likely to fall into recession.

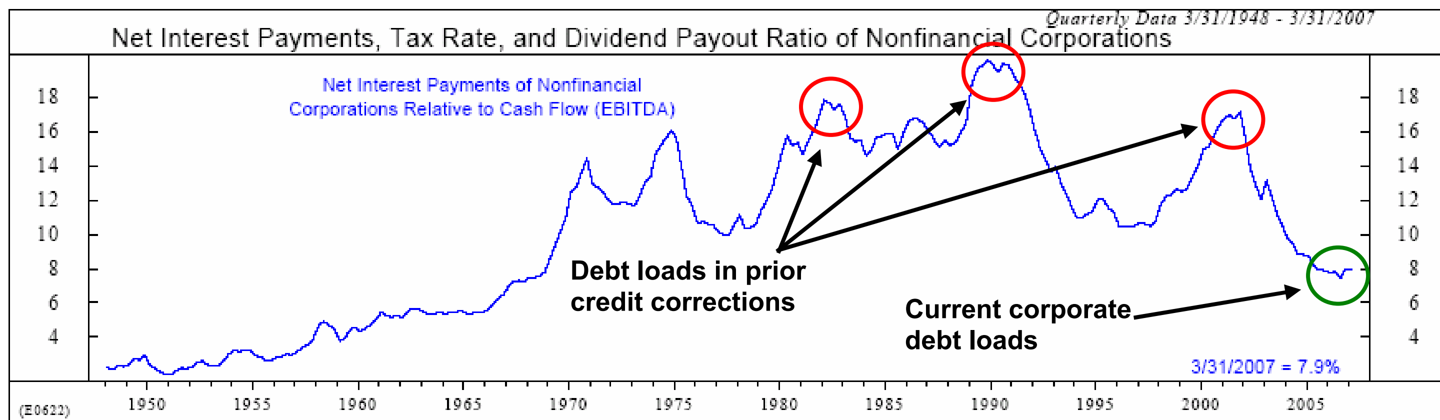
Getting Banks Back into the Lending Business

CDOs provided a significant demand for loans. That demand has disappeared in recent weeks, and nothing has taken its place. We believe that the global banking system is the only potential source of loan demand that can replace the CDO market. Although banks continued to originate loans in recent years, they did so primarily to provide collateral for CDO structures. With short-term interest rates higher than longer term rates, banks could make more money selling loans to CDOs than they could retaining the loans on their balance sheet. CDO demand for loans has plummeted, but short-term interest rates remain at levels that discourage banks from aggressively stepping in and replacing that lost loan demand. In our opinion, the only way to restore health to the credit markets in time to avoid a recession is for the Federal Reserve to lower short-term interest rates. By lowering short-term interest rates, the Fed provides banks with a powerful economic incentive to fund the loans that CDOs can no longer buy. Lower interest rates will also improve the outlook for economic growth, and therefore improve the odds that banks will have the confidence to make loans when they have the financial incentive to do so.

Fed action thus far has been limited to lowering the "discount rate," the rate banks pay when borrowing directly from the Federal Reserve. By lowering the discount rate and broadening the types of collateral accepted for these loans, the Fed has eased the stress placed on financial institutions by the current credit correction. However, these actions will, in our opinion, do little to get loans flowing again to qualified borrowers. The Fed's reluctance to act more aggressively has been attributed to their fear of being seen as bailing out lenders who made bad decisions. Such a perceived Fed safety net could restart the risky lending practices that caused the current crisis (a so-called "moral hazard"). We believe that such fears may delay, but will not preclude, Fed action.

Loans go bad when lenders refuse to extend any more credit to the borrower. The credit policies of lenders have far more impact on this process than the Fed's interest rate policy. In the past, banks had an incentive to keep troubled borrowers afloat. By extending new loans, banks could defer recognizing losses on their existing loans to these borrowers. In recent years, banks have sold off to CDOs most of the loans they originated. The owners of these CDOs will bear the losses when and if these loans go bad. We doubt that banks will bail out troubled borrowers if someone else incurs the loss when the borrower defaults. This fundamental change in market incentives, in our opinion, suggests that lenders who own bad loans will incur the associated losses and the Fed can lower interest rates without creating a "moral hazard."

If banks return to the business of making good loans within the next few months, then we believe that the economy could avoid a recession. Thanks to the CDO market, the banking system should be strong entering this credit correction. In past credit cycles, poorly underwritten or priced loans were sitting on bank balance sheets. When these loans started going bad, banks were hit with huge losses. These losses precluded making new loans and thus credit corrections invariably deteriorated into credit crunches. In this recent credit cycle, most loans were packaged and sold off. Losses should be scattered throughout the financial markets instead of concentrated in the banking system. Thus, prior lending mistakes should be less of a barrier to new loans.[2] In addition, although many consumers are currently heavily indebted, corporate America was very late joining the credit binge party; therefore, corporate indebtedness is by no means excessive at this time (see chart below). **The relatively clean balance sheets of U.S. banks and corporations contrast markedly with prior credit corrections and underlie our expectation that appropriate action by the Fed will allow the U.S. economy to avoid a recession.**



Source: Ned Davis Research

[2] *Banks are likely to incur losses on those loans that were still in their pipeline when the CDO market shut down, and may experience further losses on their lending to hedge funds, mortgage conduits, etc. However, when compared to the losses incurred after years of lending to emerging markets (early 1980s), real estate developers (early 1990s), and telecom companies (early 2000s), we believe the magnitude of these pipeline exposures is likely to be relatively small.*

Question 3: What is our outlook for the equity markets and what actions should investors take in this market environment in an attempt to mitigate risks and/or capitalize on opportunities?

We believe that the appropriate action on the part of the Fed will allow the bull market that we have enjoyed since 2003 to continue. However, the exuberance that characterized market sentiment since last October has, in our opinion, come to an end. We describe the market's prior sentiment as "exuberant" because the market paid an ever increasing amount for trend market earnings. These higher valuations were symptomatic of exuberance, in our view, because current earnings are well above long-term trend and can be expected to decline to trend at some point. We believe that two factors contributed to the market's exuberance. The first factor is the unprecedented strength of the global economy, and the belief that this strength will allow earnings to remain above trend for the foreseeable future. The second source of exuberance was the frenzy of leveraged buyout activity fueled by private equity firms. As we noted in the first quarter commentary for the Wachovia Compass Asset Allocation Portfolios:

> *"Higher risk loans and high yield bonds are being funded with credit terms and interest rates that are, by historical standards, extremely favorable for the borrower. Easy credit conditions have fueled an upsurge in leveraged buy-out activity. So long as cash is available at low rates and on easy terms, this buyout activity can continue to drive the market higher."*

We believe that Fed action would restore health to global credit markets and allow global growth to remain positive. However, in our opinion, nothing the Fed is likely to do will restart the speculative lending frenzy that drove the leveraged buyout market in recent months. A more accommodative Fed could potentially induce banks to lend, but

will not induce them to take speculative risks or grant the favorable terms that characterized the loan market just a few weeks ago. Without speculative lenders, many deals simply cannot be done. We believe those deals that meet the tougher credit standards will be much more expensive for the borrowers, which is likely to force private equity firms to reevaluate the prices paid for acquisition candidates. With one driver of exuberance remaining healthy (global growth) and one driver faltering (speculative lending), the market has struggled in recent weeks to decide whether or not continued exuberance could be justified. We believe that the key technical test for exuberance was around 1440 on the S&P 500. The market tested on this level several times in recent weeks, and on August 16, the market finally broke through that key support level.

By breaking through 1440, we believe that the market is signaling that its brief period of exuberance has come to an end. As detailed in the most recent edition of *The Week* (8/20/07), we believe that the market will have a difficult time following up on Friday's rebound. The Fed action that prompted the market surge will not be enough, in our view, to revive exuberance in the equity markets. On the other hand, the Fed's strong message that it "is prepared to act as needed to mitigate the adverse effects on the economy arising from the disruptions in financial markets" gives us greater confidence in discounting the possibility of recession. **We believe that the most likely course would be for the market to drop back into the "Boring but Up" trading zone that characterized market behavior for much of the past four years (see chart below).**

We recognize that our "Boring but Up" forecast critically depends upon our expectation that the credit markets will return to normal in a fairly reasonable time frame. Because so much hinges on the future health of the credit markets, we believe investors should know the market levels at which we will begin to question our forecast and worry about a potential recession. In the chart above, we identify what we consider to be the key valuation ranges for the market, and what we believe the market is implicitly signaling within each of the major valuation ranges.

We want to be very clear about the actions we are likely to take in our model portfolios as the different market levels identified in the chart above are tested. We believe that the next test for the market is around 1370 on the S&P 500 (about 21x trend earnings). This level corresponds to the middle of the "Boring but Up" range and also represents the lows tested by the market back in February 2007. Should 1370 hold, we believe market fears of a recession would definitely be fading, and we would look to redeploy some of the cash we have raised in recent months. We will not be too alarmed if the market fails to hold 1370. The real test, in our opinion, is around 1330. This level roughly corresponds to the bottom of the "Boring but Up" trend channel. Breaking significantly through this level would signal to us that the market is beginning to worry about the possibility of a recession, and we would be very likely to raise additional cash in our model portfolios. Our expectation is that the market will reach a floor somewhere near the 1330 level, and that the bottom of the "Boring but Up" range will hold. At these levels the market would be trading at

approximately 20x trend earnings, a level that we find fairly attractive given the interest rate and inflation environment. Accordingly, we would be likely to invest the balance of our cash positions after a successful test of this key support.

Conclusion

As with every market bubble, the speculative lending frenzy of recent years cannot end without a certain amount of pain for the markets and market participants. We believe that appropriate action on the part of the Fed could potentially contain the damage caused by the unwinding of this bubble and can do so without raising the specter of "moral hazard." We believe that Friday's Fed actions and announcements illustrate their understanding of the nature of the problem and their commitment to offsetting any *economic* impacts. This breakthrough development gives us additional confidence in our forecast of a return to a "Boring but Up" market environment. Recognizing the contingencies within this forecast, we continue to monitor market developments, and we intend to keep investors informed as events unfold.

Important Disclosures

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