

# CAPCO

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## ASSET MANAGEMENT

The following is an excerpt from our letter for the 3rd quarter of 2007:

### *On the Mortgage Crisis*

This quarter finally saw the welcome return of significant volatility to securities markets. The source of this volatility is the continued unwinding of the housing bubble, and the financing associated with that bubble. We discuss the financial engineering that helped lead to this credit crisis, provide a framework to think about the magnitude of the problem and discuss our thoughts on what it means for investment opportunities.

The current credit crisis is simply the latest iteration of Wall Street's willingness, when confronted with the demand of an investment bubble, to manufacture and sell anything, regardless of investment quality. Financial history is marked by many such episodes, from railroad overbuilding more than a century ago, to conglomerates, to junk bonds, to emerging markets, to a variety of technology bubbles in different eras. While the specific details change, the basic outline remains the same: as money pours into a hot investment area, it drives up prices. In the long run, this drives down the potential returns in the investment, and increases the risk (and taken to an extreme, virtually ensures catastrophic financial consequences). But in the short run, the fact of rising prices is mistakenly viewed by investors as evidence of higher returns and lower risk. Avoiding this cycle (which sometimes means being "out of step" with the market) lies at the heart of value investing.

During bubble periods, demand for the hot investment can far exceed the supply that is justified by normal business considerations. To satisfy investor demand, additional supply must come from somewhere. Inevitably, it comes from investments of ever lower quality. Securities mass produced to meet high levels of demand tend to make poor investments.

The current iteration comes to us from the credit markets. In recent years there has been a voracious demand among investors for bonds bearing high ratings from the main credit ratings agencies (ratings are often used by bond investors as at least a partial substitute for independent analysis). The reasons for this demand are varied, but include the perceived safety of US dollar investments, abundant trade deficit dollars held by countries with limited safe investment options, possible efforts to influence currency exchange rates, investment charters that prescribe certain ratings as a measure of credit quality, and the rise of many leveraged investment companies and funds. At the same time, the low absolute level of interest rates meant that truly low risk bonds provided only modest returns. The more demand there was for such bonds, the higher prices were driven, and the lower the yields consequently became. For investors with many, many billions of dollars to put to work, this was a serious problem.

Enter Wall Street. An inadequate supply of high quality bonds could have but one solution: find a way to make more. Prospective home buyers were willing to borrow far in excess of what could be loaned to them under traditional standards. By lowering these underwriting standards, a huge supply of additional debt could be created. If financial engineering could then turn this low quality debt into something that met the market's standards for high quality, it could fuel a business of enormous size. As we discuss below, this explosion in low quality mortgage loans masquerading as high quality bonds is a recent phenomenon.

Historically, periods of loose lending standards have eventually led to bad loans. We suspect that the vast majority of readers would not seek to lend money to borrowers with poor credit histories, with no proof of income, on unaffordable houses and at low "teaser" interest rates that will reset at unaffordable levels. But that is exactly what happened. So what process of financial alchemy caused so many sophisticated investors, in charge of so much money, to believe that this lead could turn into gold?

The method by which this was done is often drowned in jargon and complexity. It need not be. Imagine you borrowed the money for your home equally from ten different people, with a promise to pay them off sequentially over the years: first Alice, then Bob, then Charles, and eventually (alphabetically), Ingrid and then John. It should be obvious that Alice has taken relatively little risk in this deal: the house only needs to be worth 10% of the loan for her to be made whole, and she will be paid off in the earliest years of the mortgage. Equally, John has taken the most risk: a 10% loss of value wipes out 100% of his investment. In a process called securitization, trillions of dollars of original mortgage loans are gathered, and the payments are re-allocated to create bond versions of Alice and her friends. By doing so, the first recipients (Alice and so on) could be rated AAA, and the bonds sold as such. Ingrid would be rated lower, and, depending on loan quality, John might be entirely unrated. This process of securitization has been done for decades, with many different types of loans, and it legitimately makes the loans more useful and accessible to investors.

So far so good. But the Ingrid and John bonds are less desirable than most of the bonds, particularly if lower credit quality mortgages are used. So the process is often repeated: gather lots of the lower quality stuff, and again issue new bonds against it, with different priorities and qualities. Obviously, by the time you get to the bottom of this stack, the junk of the junk, there is a serious risk of loss. These pieces might again be gathered and the process repeated. At the end of the process, the financial picture is like an upside down pyramid, with large quantities of high-rated bonds at the top, their high ratings supported by smaller amounts of bonds below that bear the initial losses.

After repeatedly slicing and dicing the underlying payment streams to create increasingly complex financial instruments, the behavior of the instruments themselves becomes very unpredictable. With the financial instruments so attenuated from the underlying mortgages, it is very difficult even for the owners to know what the underlying pieces are, or to predict how their payment streams will respond to the

variables that routinely move bond markets, such as changes in interest rates, inflation, prepayment speeds, collateral values or the state of the economy. These problems are compounded if there has been an overall mis-pricing of risk, so that the whole structure, in the aggregate, is valued more highly than the underlying mortgages are really worth.

While the surge in financial products derived from low quality mortgages is a recent phenomenon, the use of derivatives to re-engineer financial instruments is not new. And while there are many examples (beyond the scope of this letter) where derivatives can be used appropriately, there are many historical examples of derivatives being used for a different purpose: to help investors do something they otherwise shouldn't or couldn't. Over the years, derivatives have been used to dress up financial statements by hiding losses; to take on enormous but well-hidden leverage; or to allow indirect bets on prohibited investments, such as currency exchange rates. In some of these cases, the use of high credit ratings has played an important role, as a bond can legitimately receive a high credit rating but still carry enormous currency or interest rate risk. The most recent example, dressing up low quality loans as high quality bonds, is primarily a problem of incorrect assumptions about credit risk, compounded by the creation of a multitude of instruments that all rely on that initial credit assessment. The transformation of low quality mortgages into highly rated bonds brings to mind the question Abraham Lincoln once asked: "how many legs does a dog have, if you call the tail a leg?" The answer is still four, because "calling a tail a leg doesn't make it a leg."

How big is this problem? Between 2001 and 2003, when underwriting standards were more reasonable, just over \$8 trillion of mortgage loans were originated, 90% of which were prime quality. Between 2004 and 2006 another \$8 trillion of mortgage loans were originated, but this time just 65% were prime quality: the surprising fact is that the market for prime quality loans actually shrank during the bubble. Only dramatically lower underwriting standards allowed the growth of low quality loans to fill the gap. Since 2004, almost \$3 trillion of low quality mortgages have been written, a category that barely existed in 2001. These loans were securitized and re-securitized over and over, until their risk of non-payment was spread widely among investors, banks, hedge funds, insurance companies and anyone else willing to suspend disbelief about the underlying loans. While there have been a number of well-publicized implosions among some of the owners of these bonds in recent months, the dollar figures involved barely scratch the surface. Because the accounting for the value of the worst of these bonds is complex and highly subjective, it is our opinion that it may be some time before all the bad news is fully disclosed.

We have focused on mortgages here, but this phenomenon was not limited to mortgages. Financing for recent private equity deals provided large amounts of debt, additional raw material for these bonds; as with many recent mortgages, valuations were high and underwriting standards were loose, so the credit quality of some of this debt is doubtful. The amount involved here is much less than mortgages, but is still considerable, in the hundreds of billions.

While it is clear to us that there must be a reckoning, and that the dollars will be large, it is not clear how bad housing will get, how far up into these financing structures the damage will reach, who owns the worst pieces of the debt, how much leverage their owners may have piled onto them, or how the lower pieces will perform under the ordinary (and now, extraordinary) changes in the variables that drive bond prices. We believe there is much more to come, and that there is no simple fix like lowering interest rates or passing a new law on lending practices.

This does not mean we are predicting a crash; we are not selling the painstakingly accumulated positions in excellent companies we own today, nor are we foregoing any purchases today based on an effort to time the market's dips. But we have spent a lot of time studying companies in this troubled area, and we know the ones we want to own, and the prices we would be willing to pay to own them. We can't predict which will become opportunities, or when, but we expect there will be opportunities.