

Leverage: The End of an Era

How the Market Got Here and Where it Will Go Next

Throughout much of the past bull market, it was the use of historically excessive leverage in a historically low interest rate environment that drove up prices to all-time highs and drove cap rates to all-time lows. As we've noticed this past year, during which losses for our heavily leveraged financial institutions have reached unheard of levels and continue to mount, leverage cuts both ways. When the bubble bursts, the same system that facilitated extraordinary heights yields depressing lows.

The following is a deconstruction of a hypothetical transaction that I believe gives insight into the dynamics of our recent bull market. Let's say there were two investors competing to acquire an asset that produced \$6.50 per year in net income, for which the broker price tag was \$100, or a 6.50 percent cap rate. The first, Mr. Conservative, was prepared to invest \$20 of equity and borrow the remaining \$80 at a rate of 5.5 percent, paying \$4.40 per year in debt-service payments. Using those numbers, his going-in cash-on-cash return on equity (ROE) would be 10.5 percent. With that leverage level, Mr. Conservative would be able to withstand a decline in the asset's earnings of 32 percent before the earnings equaled the debt service owed on the loan.

The second investor, Mr. Wing-It, was able to borrow the same first mortgage of \$80 to purchase that asset but in addition he found a mezzanine lender to fund another \$15 in return for an 8.5 percent coupon plus 20 percent of the equity upside of the deal. This allowed Mr. Wing-It, who only had \$5 to invest, to participate in this deal that otherwise would have been beyond his means. Now, Mr. Wing-It will have annual debt-

Executive Summary

- ◆ **The hyper-leverage of the past cycle created a huge credit expansion that lead to incredible price appreciation of hard assets.**
 - ◆ **As deleveraging occurs, big profits will turn into big losses.**
 - ◆ **With a compromised financial system, economic contraction in the coming years is a certainty.**
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service costs of \$5.675, but with only \$5 invested, the remaining free cash flow of \$0.825 would produce a robust annualized cash-on-cash ROE of 16.5 percent.

With his confidence buoyed by the bull market and a recent history of surging rental rates, Mr. Wing-It becomes tempted by the huge upside. He quickly assesses that even assuming a constant 6.5 percent cap rate for his exit, a meager rental increase for the asset of 10 percent would, because of the huge leverage, generate a windfall to Mr. Wing-It of \$12.31, or 246 percent of his investment, after paying 20 percent of the gain to the mezzanine lender.

This huge upside compels Mr. Wing-It to throw caution and current yield to the wind and to increase his price for the asset to ensure that he doesn't miss out on this fantastic opportunity, easily justifying a price of, say, \$115. At this price, all of the participants would need to believe completely in the upside potential for rents, essentially assuming that it is "money in

the bank." And between 2006 and 2007, they all did.

The first mortgage lender, forced to compete in a heavily over-capitalized market and organized to originate whatever he could immediately resell to the bond market, somehow justified stretching to \$92, his confidence bolstered by the fact that his loan was still only 80 percent of the purchase price and had a debt-service coverage ratio (DSCR) of 1.23X. In return, the lender squeezes Mr. Wing-It for an extra 25 basis points, raising his rate to 5.75 percent.

Mr. Wing-It still only has \$5 of equity to invest, so he would need the mezzanine lender to increase his participating loan to \$18 from \$15. Because of the larger first mortgage and slightly higher rate, there would be less available to pay currently on the mezzanine, which would have to be restructured to a lower pay rate, about 6.5 percent, in return for a larger piece of the back end, maybe 35 percent. Again, this would have been a no-brainer in 2007, considering the competitive market and the rosy pro forma.

At a price of \$115, the cap rate falls to 5.6 percent, establishing a new benchmark for future deals. While Mr. Wing-It's current cash-on-cash ROE falls to near zero, there is that huge upside that he is banking on, not to mention the management fees he will also be paid.

Problems for Mr. Wing-It and his lender/facilitators occur if rental revenues don't rise, let alone if they decline. Unlike Mr. Conservative, who can withstand a significant decline in rental income, Mr. Wing-It cannot. He has priced the deal such that the upside must be realized for things to work out. This is referred to as "pricing the deal to perfection" and is one of the

classic mistakes of a bull market. However, it is not just the prospect of failing to achieve rental growth that makes the Mr. Wing-It capital structure precarious. He actually must both achieve rental growth and sell the asset at a good price in the near term because even if rental

industry today can be directly traced to the simple fact that for many years there have been too few lenders to support a robust market. This seems to be an especially odd thesis in light of 2007's record lending volume of approximately \$500 billion.

of CMBS classes, all \$230 billion in 2007 for example, to be proxies for real estate lenders, but that is actually not the case. Buyers of CMBS senior classes are actually lenders to lenders, providing leverage to the B-piece buyer, the only real estate lender in this system. So, what the huge CMBS volume indicates is that a rather paltry amount of true lender capital, only about \$6 billion of B-piece money, which represented 2.5 percent of 2007's volume, was hyper-leveraged through CMBS and CDO structures. Applying a historical normal leverage ratio to lender equity of 10:1, that \$6 billion would have historically supported \$60 billion of lending and not the \$230 billion that it did in 2007.

Surprising as it may sound, the root problem in the U.S. real estate industry today can be directly traced to the simple fact that for many years there have been too few lenders to support a robust market.

revenues increase a bit during the course of the financing package, refinancing that capital stack in a more normal leverage environment will likely cause serious pain for Mr. Wing-It and his mezzanine lender.

To illustrate what can go wrong even if things go right, let's assume that net income does increase to \$7.50, but first mortgage financing costs are 7 percent with a minimum 30-year amortization schedule and a minimum DSCR of 1.2X. This would yield a first mortgage of only \$78 and leave a financing gap of \$14 to just pay off the original first mortgage and \$32 to pay off the mezzanine lender too. With \$6.50 per year of payments due on the new first mortgage, there would be only \$1.25 per year of free cash flow left, and everyone involved in the original deal would be suffering significant write-offs.

If Mr. Wing-It were able to achieve his objectives, round-trip the asset and generate his lofty returns, he would have justified the 5.50 percent cap rate. His success would have emboldened investors and lenders alike to back him with much larger pools of capital to repeat his mastery, not to mention inspire numerous others to follow his lead in pricing their deals to perfection, thus placing the broader market at a much higher precipice from which to correct itself.

LEVERAGE UPON LEVERAGE

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Dissecting that huge number, we find that CMBS, or loans originated and sold as securities, and commercial bank real estate lending each accounted for \$230 billion, with life insurance companies providing another \$50 billion. However, CMBS volume especially, and the bank volume to a significant but lesser extent, having been boosted by unprecedented systemic financial leverage, vastly overstate the capacity of the system.

The Wall Street-based CMBS lenders, as we have come to know in this past decade, are not really lenders at all. They are mortgage bankers, not designed to hold loans on

This information tells us two things. First, approximately \$170 billion of capital was improperly injected into the commercial real estate arena in 2007 through the CMBS system from too much leverage-upon-leverage. With the demise of CMBS-based origination, the return of that capital is unlikely in the coming years, and the higher asset valuations that were the result of this excess capital will likely be reversed. Second, as the capital structures that incorporated this excessive leverage mature and need to be refinanced in a more normal

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their own balance sheets but, instead, reliant upon the existence of a secondary market into which they necessarily sell all of their originations.

In the CMBS system there actually are lenders, called "B-piece buyers," to whom the mortgage bankers sell their loans. One might mistakenly characterize all buyers

and traditional leverage environment, there will be significant losses for those at the bottom of the capital stack, including the equity holder, B-piece holder and even some holders of the investment-grade CMBS classes.

This helps to explain the historically wide spreads at which the

secondary market now prices this paper. That the commercial banks are plagued with portfolios of bad loans that have depleted their capital base will only exacerbate the impending downturn.

LEVERAGE UPON LEVERAGE UPON LEVERAGE

If all of that wasn't enough to scare you, there was actually more leverage, placing our system and investors in an even more precarious position. B-piece buyers, the leveraged lenders of the past cycle, who with a 2.5 percent junior stake in a pool of loans were already operating with 39:1 implicit leverage, typically re-leveraged that position another 1:1 or 2:1 either through the issuance of CDOs or through a warehouse borrowing facility, increasing their leverage ratios to between 79:1 and 119:1. So, at the higher end, or 119:1, we would

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tive contracts whose cash flows were designed to be derived from and exactly mirror those of a specific class of CMBS bonds. For example, if a CMBS deal had a \$50 million class of A rated bonds that were priced to yield LIBOR plus 70 basis points but there were \$500 million of buyer interest for those bonds, a dealer could create \$450 million of synthetic bonds to fill that demand. "Buyers" of these synthetics were able to hold significantly less, if any, capital against

there is absolutely nothing intrinsically wrong with this system of leveraged lending, which is actually the standard in the world of finance. In fact, all lenders in the world are leveraged lenders, be they banks, insurance companies, hedge funds or others. It is fair to say — and perhaps never has been more apparent than now — that a financial system without leverage cannot function properly in its role as the creator of ample credit to fuel a healthy economy. Yet, like any business, there are more and less prudent approaches to leveraged lending.

To get it right in the lending business, a lender must be a good credit underwriter, must match-fund his assets with liabilities that have a similar maturity and pay schedule, and must adhere to leverage levels that are reasonable. It's really not rocket science.

Leveraging a lending business can go awry in two ways, in addition to the obvious one of making poor-quality loans, which would exacerbate losses in either of the following instances. The first is when the leverage terms do not match the terms of the loans they are financing, which was the case in the undoing of the savings and loan industry in the late 1980s and of Bear Stearns this year. Quite simply, this involves the holding of loans (assets) with maturities that outstrip the maturities of the associated liabilities that are funding said assets. If the liabilities are not renewed, as was the case in the Bear Stearns saga, the result for the lender and its shareholders is disastrous.

have had less than \$2 billion of real lender equity supporting \$230 billion of loan volume when it should have supported only about \$20 billion, or the approximate amount of CMBS issuance in 1996.

At the same time, Wall Street firms and banks further increased the leverage in the system through the creation of off-balance sheet subsidiaries and derivative securities. Banks, seeking clever ways to increase their leverage in order to juice their return on equity, created off-balance sheet vehicles that could own assets in a hyper-leveraged manner without the regulatory limitations on leverage that on-balance-sheet investing would be subject to.

Wall Street firms created billions of dollars of synthetic CMBS securities that were simply deriva-

these instruments, thereby adding massive and concealed leverage to our financial system.

As regulators have begun to understand these off-balance sheet investment vehicles and the synthetic bond, or derivatives market, the threat that capital charges will be increased to properly reflect their risks places a strain on the financial system's already depleted capital base, will exacerbate the imbalance between the demand and the supply of capital, and will keep credit spreads wide and yields high for years to come.

LEVERAGE?

Much has been made about leverage, and clearly leverage is the bogeyman of this crisis. Yet much about leverage is actually poorly understood. While it sounds scary,

The second, which is the case in the current market, occurs when too much leverage is used. This has the effect of amplifying any losses in the underlying loan portfolio. If, for example, a lender experiences in a single terrible year a 5 percent default rate across the portfolio and a 50 percent recovery rate, 2.5 percent of the portfolio is lost. This would be very bad for any lender, even for one leveraged at a historically conservative 9:1 ratio, but

not necessarily catastrophic. Assuming that the remainder of the loan portfolio performs as expected and produces a return on assets of 1 percent above the cost of the associated liability, the total return in this horrible year would be negative, -14.25 percent to be exact, which would reduce the capital base and leave the lender with a balance sheet that would be leveraged at 11.5:1 — worse clearly, but not a disaster.

In the 2007 CMBS world, however, the lender, Mr. B-piece, was leveraged at a minimum of 39:1, which reflected the fact that the average B-piece in CMBS was 2.5 percent of a deal's principal balance, and does not even account for any further leverage that a B-piece buyer likely employed. So, at 39:1, assuming the same 5 percent default rate across the portfolio and 50 percent recovery rate, Mr. B-piece faces the prospect of a total loss of investment.

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CONCLUSION

The hyper-leverage of the past cycle created a huge credit expansion that led to incredible price appreciation of hard assets. As things reverse, hyper-leverage turns big profits into big losses, and it doesn't take too long to wipe out capital. Today, we're in the early stages of de-leveraging the largest hyper-leveraged system in modern times, and broad pain in the form of reversal of appreciation is inevitable.

Each day, Wall Street and banks mark down assets in the hope that higher yields and lower prices will attract a buyer base and begin a much-needed rally. And each day, Wall Street traders go home disappointed.

With a compromised financial system, economic contraction in the coming years is a certainty. Lenders have little capital upon which to create new loan assets and must remain in a "hunker-down" position for a while. The government's resources are not

are. It is that there is not enough capital in the system to satisfy the need for capital. In the most simplistic terms, there are more sellers than buyers.

For a clue as to where real asset prices might reasonably go, one might apply the high end of

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ample to underwrite the losses of the system. The Federal Reserve's capacity is strained. Printing money will not do much good as our dollar is already low and the risk of inflation high. Our government keeps losing huge sums of money, which is the simple way of saying that we are operating with a massive annual budget deficit. And taxes are already at very high levels, and thus there is little left to take from the U.S. citizen to repair matters.

Each day, Wall Street and banks mark down assets in the hope that higher yields and lower prices will attract a buyer base and begin a much-needed rally. And each day, Wall Street traders go home disappointed. Formerly liquid securities such as highly rated mortgage-backed securities are being offered at prices far below their historical lows, and still there is no interest. The next day, they are reluctantly offered lower, and the result is the same. It is not that the prices are not attractive — they

the long-term range that returns for such assets typically beat inflation, which at the highest end would be 5 percent, add that rate to a 3 percent inflation rate, and then compound that 8 percent appreciation number over the 10-year period that traces back to what many would agree was the beginning of the cycle we are now closing out.

This would imply a "natural" appreciation of approximately 115 percent since 1998, and that any amount beyond that, whether it was for a residence or an office building, could likely be attributed to systemic hyper-leverage or other temporary phenomena such as the dollar-euro relationship that is in the process of being reversed.

It is imperative that capital be brought into our financial system, but to do so we will need to create versions of the "good bank/bad bank" structures, whereby yesterday's assets are isolated into liquidating entities that the government allows to operate with lower capital standards, and fresh new capital is introduced with clean balance sheets capable of extending new credit judiciously and profitably to reinvigorate our financial system and our economy. All the talking from the "bully pulpit" will ultimately have to give way to this reality. ❖

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