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Editor's Note

The late summer and fall of 2007 have ushered in a re-awakened debt market, with far more conservative underwriting standards and a more realistic and time sensitive view of the markets. For the past number of years, the real estate markets experienced extraordinarily high leverage along with "warp speed" underwriting, with lenders knocking down deals from several hundred million to several billions of dollars in a matter of weeks. This has come to an abrupt end, leaving many owners with too much leverage on their assets, coupled with short maturities in many cases. This combination will likely rear its ugly head shortly, as any combination of mezzanine and senior lenders will be faced (for both better and worse) with the prospect of holding "real estate owned" properties or interests as applicable.

In a variety of currently "over-heated" residential markets, lenders routinely underwrote condominium projects solely as "for sale" projects, not envisioning a glut and a slowdown in sale velocity. These institutions likely will need to write down or sell their debt, unless the rental markets can bail them out. Clearly, Florida, Las Vegas, D.C., and other markets fall into this category, with the New York metropolitan area seemingly escaping (for the moment).

The rush to build hotels, again, in certain markets, in my view, will result in over-supply, although the statistics being utilized to justify need developments say otherwise.

The office markets remain fragmented with certain markets remaining as flat as ever (including Philadelphia, San Diego, etc.), while New York City rents and rents in some other select markets continue to rise sharply.

Retail again looks market specific in terms of strength and rates, but we are seeing a greater appetite for retailers to return or expand in urban markets, which is both healthy and likely a good economic bet.

The institutional sale markets via Eastdil, Cushman and others will, in my view, continue to see a level of success but at a much lower and slower rate. We have yet to see cap rates in these bid situations adjust to the rates available in the debt markets, and more likely than not, we will see better cap rates as the seasons turn.

Clearly the "big news" remains the lack of availability as well as the cost of new debt in the commercial markets, the effects of which have yet to play out.

In This Issue

We begin this issue with the results of a national survey

conducted by my law firm to measure the attitudes and perspectives of top executives within the commercial real estate industry. According to our survey, the strains of the subprime lending shakeout and resulting credit crunch have forced those in the real estate industry to abandon their "bullish" outlook for the U.S. commercial real estate market. Moreover, only 31 percent describe their 12 month outlook for the U.S. commercial real estate market as bullish – that number is down sharply from the 78 percent of respondents to my firm's "State of the Market" Real Estate Survey in April.

Hotel Finance

In our next article, "Mortgage Credit Crunch? What Does it All Mean for the Hotel Business Going Forward?," Michael T. Sullivan, the managing director of HVS Capital Corp., discusses traditional hotel financing, the origins of the current "credit crunch," and how the tighter supply of mortgage money will affect financing in the hotel industry in the near future.

Bank Regulators' Statement

A large number of adjustable rate mortgages are resetting in the near future. In our next article, "Bank Regulators Ask Servicers to Help Subprime Borrowers Who Risk Default," Ernest T. Patrikis, Glen R. Cucinello, and Randi Maidman of Pillsbury Winthrop Shaw Pittman LLP examine a recent statement by bank regulators encouraging residential mortgage servicing companies to identify and assist borrowers at risk of default in order to prevent future foreclosures.

Robert G. Koen, Esq., the editor of *The Real Estate Finance Journal*, is a partner in the New York City office of DLA Piper US LLP, where he focuses on commercial real estate, with a concentration in real estate acquisitions and finance.



Using Derivatives

Marc Mouhadeb, a senior associate in the Real Estate Advisory Services Group at The Schonbraun McCann Group, a national real estate and finance consulting firm headquartered in New York, is the author of our next article, "How are Real Estate Derivatives Used to Diversify Away Risk From One's Portfolio?"

In this article, Mr. Mouhadeb discusses the securitization of real estate and how derivatives evolved as a means to minimizing the various risks emerging from different asset classes and regions around the United States. He also provides examples of different derivative products and how they are structured to hedge or minimize the investor's risk as it relates to their underlying asset.

Taxes

In June, House Ways and Means Committee Chair Charles B. Rangel (D-New York) and Sander Levin (D-Michigan) introduced a bill in the House of Representatives that would tax carried interests for private equity and hedge funds – as well as real estate and venture capital partnerships – as compensation for services at ordinary income rates (the "Carried Interest Bill"). As a result, the carried interest would be taxed at a 35 percent federal income tax rate, rather than at a favorable 15 percent rate on long term capital gains under current law. The Carried Interest Bill also would treat the carried interest as "self employment income" subject to self employment taxes (imposed at a 2.9 percent rate above certain thresholds). Under the Carried Interest Bill, the long term capital gains rate will continue to apply to gains earned on capital invested by the general partner. The Carried Interest Bill does not include an effective date.

In "Update on Congress' Threat to Increase Tax Rate on Carried Interest Earned by General Partners of Real Estate and Other Funds," Benjamin Berk and Ellen Kaye Fleishhacker of Howard Rice Nemerovski Canady Falk & Rabkin discuss the bill.

And More. . . .

We of course have a wide range of other articles here, including several focusing on environmental issues: "New York City Responds to Global Warming by Promoting Green Buildings," by Christine Fazio and Melinda Poon of Carter Ledyard & Milburn LLP; "Emission Policies Will Impact the Future of Development Projects," by John E. Bryan of Seyfarth Shaw LLP; "FTC to Probe Nascent Carbon Offset Credit Market," by Thomas R. Carey of Bell, Boyd & Lloyd LLP; and "New Prospects for Tax Advantages in Brownfield Remediation Projects," by Elizabeth F. Mason and Christophe G. Courchesne of Goodwin Procter LLP. We also have a number of international real estate-related pieces, including, "Real Estate Investment in France—Market Overview and Legal Guidelines," by Valérian Conrad-Bruat, Peter Britell, and Anastasia Neimark of Dewey & LeBoeuf LLP; "China Infrastructure Projects—Choosing the Right Contracting Structure," by Peter Chow of Baker & McKenzie; and "Are UK-REITs Victims of Their Own Success?," by Patrick Lecomte, of the Real Estate Center of the College of Business at the University of Cincinnati, and Bill Whitaker, of the College of Business at the University of Cincinnati.

Enjoy the issue!

Robert G. Koen

Editor

October 2007

How are Real Estate Derivatives Used to Diversify Away Risk From One's Portfolio?

Marc Mouhadeb

The author discusses the securitization of real estate and how derivatives evolved as a means to minimizing the various risks emerging from different asset classes and regions around the United States. It provides examples of different derivative products and how they are structured to hedge or minimize the investor's risk as it relates to their underlying asset.

"Real Estate already is volatile and risky—like the stock market, [A]nd the risk is increasing. The impression that real estate market only goes up is wrong. We need hedging for both sides."¹

As unfortunate as it may seem, real estate has its peaks and troughs like any other asset and/or security. For many years, derivatives have been trading heavily on different types of securities in order to minimize portfolio risk and exposure during turbulent times. In order to derivatize an asset, however, it must be a continuously traded asset, which ultimately leads to the liquidity of the asset. However, real estate is not a liquid asset and is not continuously traded. Furthermore, real estate is a heterogeneous product and has a high barrier of entry. Shiller's quotation addresses the reality of life—what goes up must come down—and vice versa.

Until most recently, the development of real estate derivatives has been a slow process; investors had not seen a need to diversify real estate risk. However, over the course of the last eight to 10 years, real estate

values have been consistently rising.² Yet, as property owners start to take into account what Shiller said about volatility of the market, they are beginning to understand the risk involved and the subsequent need to manage and diversify away from it. In a phone interview with Ricardo Pereira from Bank of America's Structured Finance group he said,

"Property derivatives allow risk diversification as any other investment product. The degree of diversification will be function of portfolio's composition. It is known that physical property's returns have low correlation with equity market's returns. In this sense, it allows diversification and at the same time it will decrease portfolio's systematic risk, if the benchmark is an equity market proxy. If, for example, the proxy is a Real Estate Equity index, this effect can be smaller." He continued, "In the end, the observed impact in portfolio's beta will depend on the benchmark and on the underlying of the property derivative."³

This article will discuss the securitization of real estate and how derivatives evolved as a means to minimizing the various risks emerging from different asset classes and regions around the United States. It goes through examples of different derivative products and how they are structured to hedge or minimize the investor's risk as it relates to their underlying asset.

Marc Mouhadeb is a senior associate in the Real Estate Financial Services Group at The Schonbraun McCann Group, a national real estate and finance consulting firm headquartered in New York. In this position, Mr. Mouhadeb concentrates on real estate acquisition due diligence and analysis for all asset classes with an emphasis on office and retail. He can be reached at mmouhadeb@smgllp.com.

Derivatives

A "derivative" in its most basic form is defined as "a financial instrument whose value depends on (or derives from) the values of other, more basic underlying variables. Very often the variables underlying derivatives are the prices of traded assets."⁴ Derivatives can be dependent on any variable from the price of stocks to the price of coffee beans. There are several types of derivatives; they include: options, futures, forwards, and swaps. Simply put an "option" is the right to buy or sell an asset and a "future" is a contract that obligates the holder to buy or sell an asset at a predetermined delivery price during a specified period. Like a future, a "forward" is a contract that obligates the holder to buy or sell an asset for a predetermined delivery price at a predetermined future time. A "swap" is an agreement to exchange cash flows in the future according to a prearranged formula.⁵ Swaps are popular means of managing risk exposure to the swings in the market.

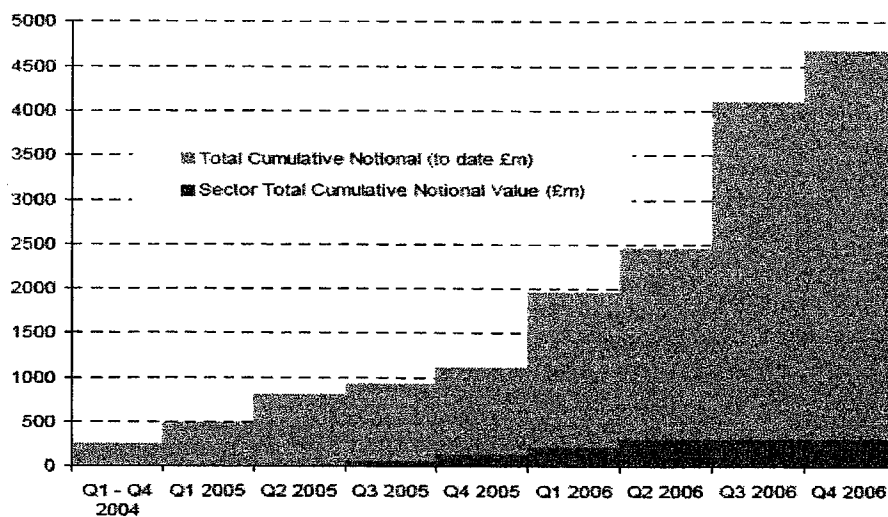
Derivatizing Real Estate Assets

In order to derivatize an asset, it needs to be a continuously traded asset and one that is liquid to the markets. Additionally, information is not as readily accessible for real estate the way it is for publicly traded companies. These market variables are hindering the breakout of real estate derivatives; it is therefore imperative that these issues be addressed and the real estate asset securitized. The first step made towards establishing a more securitized real estate sector was the Real Estate Investment Trust, otherwise known as

REIT. The development stipulated that a company would raise money from the public markets and trade as any other equity would, but it also implemented many rules and restrictions (distribution and tax laws). As time passed, real estate indices began to appear, which revolutionized how investors could invest. The first in a series of changes being made was the property index; an example of which was the Case Shiller Home Price Index. This innovation promoted the tracking of home prices throughout the United States. The establishment of these types of property indices has enabled investors to invest in an index that tracks home prices as opposed to buying the physical asset itself. Hence, the high barrier of entry which was once prevalent has now been eliminated.

Robert Shiller and Karl Case developed the Home Price Index approximately 20 years ago to give homeowners and investors the insurance that they needed. However, it also allowed for more transparency in the market. Transparency was one of the main reasons Fox Property Futures failed at launching property futures in the early 1990s. Patrick Lecomte, quoted K. Patel as saying "'false market prices were apparently being maintained,'" which totally flawed the price discovery mechanism paramount to any futures market."⁶ However, the United Kingdom expanded on this idea. In the U.K. the main property index that is now used is called the Investment Property Databank ("IPD"). Approximately €700 million of real estate derivatives have been traded in 2005 and approximately double that in 2006.⁷ Today, over €5 billion worth of real estate derivatives are being traded. IPD's quarterly growth from 2004 is reflected in Chart 1.

Chart 1 2004 IPD Quarterly Growth



© IPD

Case, Schiller, and Wise were concerned that homeowners lacked insurance against declines in home values. Given the unique nature of the real estate market, it is important to create some sort of benchmark in order to create the proper derivative system/market for it to protect against property devaluations. The Home Price Index would be apropos for this type of hedging. The method by which a homeowner could diversify his risk would be to buy a put option against the property index (option to sell an asset at a certain price). If the housing market collapsed, then the homeowner could diversify the risk away from his physical asset to the derivative. He could exercise the put option and minimize his overall loss. This would significantly reduce his exposure to idiosyncratic risk; it would mirror the assets to the reverse, thereby being less vulnerable to a downturn.

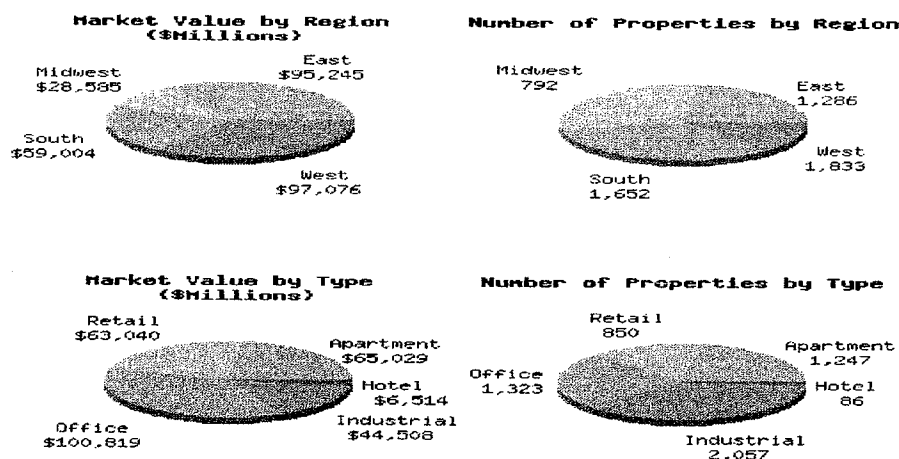
Derivatizing in Other Industries

The hospitality industry is mimicking this same strategy. There is now an index, which tracks Average Daily Rates ("ADRs") of hotels in the United States, which is a key indicator of profitability—HQuant Lodging Index ("HLI"). The index will gather information on over three million hotel rooms, or 70 percent of the nation's total. This allows investors to participate in the future performance of the hotel industry without investing in the underlying asset, the hotel. These indices will then receive further refinement by price and regional segments. Dr. Daniel Quan from

Cornell University's School of Hotel Administration said that investors will be able to participate in the daily profitability of a hotel without the much larger investment of purchasing the real estate. Lenders in this sector can benefit from this greatly as they can hedge their position against default risk from declining ADRs. (Declining ADRs can lead the Debt Service Coverage Ratio ("DSCR") potentially falling below one. This means that the hotel owner cannot cover his debt from the income produced by the hotel.) In addition to lenders protecting themselves, investors will also be able to trade swaps between different regions to reduce regional economic risk.⁸

Another known index is the NCREIF (National Council of Real Estate Investment Fiduciaries) Property Index, or NPI. This index benchmarks U.S. commercial real estate. Commercial real estate is one of the last securitized asset classes in the real estate sector—keeping in mind that the NCREIF holds unsecured assets. This is an appraisal-based index, which will cause the index to have short-term discrepancy because it is not market based and may take time to correct itself. Price discovery is not so apparent so option and futures trading are a safer bet longer term. Up until April 2007, Credit Suisse First Boston was the only bank to have exclusive rights to writing derivative contracts against the NCREIF. Now, NCREIF offers the contracts to many other banks. The index has over 4,000 institutional level properties valued at over \$250 million. Chart 2 illustrates the current breakdown:

Chart 2 Current Breakdown of NPI Institutional Level Properties⁹



This index segments asset class and region by market value and number of properties; it is great for inves-

tors who need to hedge their position by asset type because many investors prefer one over another as with

region. For example, if an investor owns retail properties on the West Coast or perhaps he is a retail lender, the investor/lender could purchase a put option on the West Coast retail index. Should the retail sector take a nosedive, he could exercise that put option to hedge his loan, whether he is an investor or participating owner.¹⁰

Swaps

Another way to use the NCREIF as a base index for derivatives would be what is known as the swap; it is a very popular product in the financial markets and is actively traded today. The most active swap today is the AAA 8.5YR CMBS Total Return swap.¹¹ As previously stated, a swap is an agreement to exchange cash flows in the future according to a prearranged formula. Many large and small pension funds use this form of derivative to either hedge their bets or maintain the portfolio weight structure. For example, imagine there are two funds ABC and XYZ. ABC fund is a smaller fund that does not want to invest directly in real estate, as it is not liquid and too expensive of an asset for the fund's requirements. XYZ fund, on the other hand, is a larger fund that currently owns real estate and due to current market conditions, needs to reduce its real estate exposure. In this scenario, the two funds will essentially "swap" cash flows. Fund ABC will take a long position swapping a fixed return for NPI appreciation return, while fund XYZ will take a short position swapping the NPI appreciation return for the fixed return. XYZ will pay ABC (short position pays the long position) the NPI appreciation return each quarter while ABC pays XYZ the spread or the "fixed leg" each quarter. Typically the "fixed leg" is LIBOR + a certain spread. This procedure will go on every quarter for the duration of the contract, which typically lasts for two to three years. To quantify this, on a notional (a theoretical value of the assets underlying the derivative—no cash being exchanged) amount of \$1 million dollars, the spread, or fixed leg is one percent. In year one, NPI appreciation is two percent. XYZ owes ABC \$20,000 (two percent of \$1,000,000) and ABC owes XYZ \$10,000 (one percent of \$1,000,000). The net cash flow is XYZ owes ABC \$10,000. This exchange reoccurs every quarter. If there is a negative NPI appreciation, then ABC would owe that percentage decrease multiplied by the notional amount of \$1,000,000 in this case.¹²

Keep in mind, no money was initially exchanged. XYZ was originally overexposed in the real estate sector due to the "denominator effect." This term basically means that if a fund was 60 percent weighted in stocks and the stock market fell 10 percent, this would overexpose the fund in other areas (bonds and/or real estate sectors). Without exchanging money, XYZ corrected this by shorting \$1mm in real estate (no exchange), shorting treasuries \$1 million (+\$1 million), which is paid for by the fixed leg paid by ABC from

the swap, and selling \$2 million in bonds to reduce the bond exposure that was caused by the denominator effect (+\$2 million). The \$3 million in cash that was created is then used to purchase stock, hence decreasing the fund's real estate exposure and maintaining the appropriate weights. This dimension is particularly important to large funds because they need to meet requirements and need this flexibility in order to execute the derivative without selling the underlying asset (real estate). ABC covers their risk (from the fixed spread) by holding \$1 million of risk free bonds in their portfolio.¹³

Mortgage Backed Securities

Reverting back to the property indices, there is a relatively new phenomenon of structured financial products such as Commercial and Residential Mortgage Backed Securities ("CMBS" and "RMBS"). These Mortgage Backed Securities ("MBS") are pools of loans aggregated to be traunched up by risk factor and sold in a manner similar to the way bonds are sold. According to The Bond Market Association, gross U.S. issuance of agency MBS was:

- 2005: USD 967 billion
- 2004: USD 1,019 billion
- 2003: USD 2,131 billion
- 2002: USD 1,444 billion
- 2001: USD 1,093 billion

Evidently, Mortgage Backed Securities are playing a large role in the financial world as it is seen as a great diversifying tactic for large funds and investors. Buyers of these securities will offset the risk of these loan pools by purchasing derivatives. Should the mortgages begin to default and the mortgage market collapse, the value of these derivatives will increase. The third party (on the other side of the derivative) will have to make a large cash payout in order to cover the decline in the value of mortgage backed securities. The third party will also have to come up with a way to make this large payment—either through collecting of another derivative transaction or selling the underlying asset, MBS. Being that the MBS lost a lot of value; the third party may have to sell another asset (stock or bond perhaps) to come out whole on his payment due. This spiral effect is evident today in the subprime mortgage sector where millions of loans are going into default and large institutions and funds are going belly up.¹⁴

The mortgage backed security market led the way for derivatives. Although a slow process, it is becoming more and more prominent. As real estate investments are concentrating less on direct real estate investments, speculative price movements on the real estate market are reduced, thereby smoothing out the business cycle.¹⁵ With derivative products, volatility in the underlying asset slowly diminishes as speculative buyouts or sellouts are less likely to occur.¹⁶

Conclusion

The market for real estate derivatives is a relatively new one. While under research, it is becoming more prominent as investors and lenders are realizing increasing risks in the markets due to interest rate risk, liquidity risk, and most importantly credit risk (as seen in the mortgage backed security industry). Defaults are at an all-time high, thereby making these lenders and equity investors more leery about real estate. Within the past decade, real estate derivatives have become more popular. The hotel sector plans on creating multiple and sub indices to track ADR in specific markets (similar to NCREIF) as seen with HQuant. The property market is continually growing with more specialized criteria as seen with Case Shiller Home Property Index., which is catching up to the IPD in the UK. The office, retail, industrial, and apartment sectors are seeing more liquidity through NCREIF. Although these indices have their faults due to timing and lag issues, they have come a long way. The derivative market is only as good as the benchmarked index. More research needs to be done to iron out the quantitative pricing for options, futures, and forwards as it relates to real estate because they act a lot differently than the equity markets. Index-based derivatives, by definition, only address systematic risk. However, real estate is very idiosyncratic in regards to risk. The underlying pricing model needs to be adjusted to resolve this issue. Although real estate is the last asset to be derivatized, it will definitely grow rapidly into a respectable benchmark as compared with IPD, and other foreign markets.

¹ Shiller, Robert, Yale Economist, developer of the Case Shiller Home Price Index.

² Stribling, Dees, "The Dawning of Derivatives," NA-REIT—Real Estate Portfolio (May 2007).

³ Phone Interview with Ricardo Pereira conducted on Monday, August 6, 2007.

⁴ Hull, John C., *Options Futures, and Other Derivatives*, Fifth Edition, New Jersey; Prentice Hall, 2003.

⁵ Hull, John C., *Options Futures, and Other Derivatives*, Fifth Edition, New Jersey; Prentice Hall, 2003.

⁶ Lecomte, Patrick, "Designing Property Futures Contracts and Options Based on NCREIF Property Indices," *Journal of Real Estate Portfolio Management* (2006).

⁷ Kilbinger, Sara Seddon, "U.K. Real-Estate-Derivatives Deals Are on the Rise," *The Wall Street Journal, Real Estate Journal* (2006).

⁸ HQuant, LLC (May 9, 2007), "HQuant Launches Lodging Derivative Index," Press release.

⁹ NCREIF—<http://www.ncreif.com/indices/mpi.phtml>.

¹⁰ An important note about the composition of an index: When investing in property derivatives, it is crucial to understand the composite of the index using to make your hedges. For example, residential real estate accounts for eight percent of the IPD index for Germany. The remaining 92 percent consists of mostly of holdings of open end real estate funds. An investor wanting to use this index to hedge the value of their house may want to reconsider since it is primarily a commercial property index and not residential. (Deutsche Bank Research).

¹¹ Email exchange with John Beamon from Lehman Brothers.

¹² Geltner, David and Norman Miller, and Jim Clayton and Piet Eichholtz. *Commercial Real Estate Analysis & Investments*, Second Edition. Thomson South Western, 2007.

¹³ Id.

¹⁴ Smith, Charles Hugh, "Derivatives and the Real Estate Bubble," (November 2006), <http://www.oftwominds.com/blognov06/RE-derivatives.html>.

¹⁵ Just, Tobias and Jurgen Feil, "Property Derivatives Marching Across Europe." Deutsche Bank Research, Germany (June 2007).

¹⁶ Dr. Tom Geurts, Professor at New York University—through email exchanges.

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