REAL ESTATE ISSUES®

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Panelists: Roger Bedzek, Mark Jewell, Molly McCabe, James E. Woods, Fred Butters, Stephen Del Percio; Moderators: Susanne Ethridge Cannon, CRE; Ujjval K. Vyas, Ph.D., J.D.

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Reviewed by Peter Holland, CRE

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"Green" marketing is everywhere, and the real estate sector is no exception. But of course, like many of these transformations in the language of the marketplace, caveat emptor is often the rule. As more and more real estate owners, developers, public and private investors, and others get involved in promulgating "green" or "sustainable" buildings, it may be useful to take a closer look. Perceived value and real value are two different things, as the market eventually reminds everyone. In anticipation of a more detailed review of this area in an upcoming issue of *Real Estate Issues*, we asked a number of thoughtful experts in the field to weigh in and get the conversation started.

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Investing in Residential Real Estate in the United States of America

Rich Hanson, CRE, 2008 Chair of The Counselors of Real Estate

Despite the current credit crunch and market turbulence, investment today in housing is a good bet, as long as investors and developers consider the increasingly complex environment. Factors to consider are: global investment in U.S. housing markets, changing housing demographics that favor dense urban living, rising energy costs and declining supplies, and the cost and availability of food. Global, national and local governments are setting new requirements and policies that will affect the location and financing vehicles/requirements for housing. Developers and investors must actively participate with governments and policymakers to support "smart development."

FINANCE

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Caution! Not All House Prices Have Declined

Paul G. Johnson, CRE

The headlines scream it's so every day, but housing prices may not be declining in the numbers and at the rate that most people believe. Many of the databases that are mined for housing statistics contain "dirty data" that doesn't reflect the true numbers. A closer look at the statistics, and "cleaning up" of the data shows that the housing market may not be as dire as it seems.

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Agricultural Land

Peter Holland, CRE; Maura Cochran, CRE; and James McCandless

This article looks at land in perhaps its most basic and fundamental purpose—that of agriculture. The authors summarize *why* this market segment has become an important asset class for investors and *what* are the historical and future valuation and demand trends.

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U.S. Senior Housing Opportunity

David Lynn, Ph.D., and Tim Wang, Ph.D.

The senior housing sector is emerging as an increasingly attractive investment opportunity. Facilitated by a restrained supply pipeline over the past six years, occupancy levels for senior housing assets rebounded from lows recorded in 2001-2002 to near 90 percent today in many metro areas. Operating business models are better-defined, contributing to strong revenue growth and higher profit margins. Since the senior housing market is driven by surging senior population and not directly related to external economic factors such as economic growth and the unemployment rate, the addition of senior housing assets to a portfolio could increase diversification and lower market risk. Different investment strategies are outlined and discussed.

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Special Master Bias in Eminent Domain Cases

S. Alan Aycock, CPA, Ph.D., and Roy Black, Ph.D., J.D.

This study examines actual appraisals and settlements in eminent domain court cases to determine if bias might exist on the part of court-appointed special masters. The research question is whether these special masters systematically and consistently undervalue properties being condemned, hence being biased toward the condemnor. The results indicate that such bias is persistent.

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Real Estate Conveyances from Livery of Seisin to Electronic Transfer: Real Estate Transactions Enter the Digital/Electronic World

John A. Gose, CRE

A radical change in the form of conveyancing is upon us. Conveyancing, the method of transfer of title to real estate, is entering a new era, the electronic–digital Internet era. Prior to the 1500s, most voluntary conveyancing was by manual transfer, or Livery of Seisin. For the last four or five hundred years voluntary conveyancing was accomplished by written documents called deeds.

Today, the electronic, digital era coupled with the Internet is changing this written world. Negotiations and documents may be and are done electronically. The next step, electronic recording, is here. Real estate professionals should be aware of this rapidly changing world and be prepared to deal with it.

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Commercial Real Estate Loss Expectation and CMBS/CMBX Prices

Jun Chen, Ph.D., and Jon Southard

The economic analysis presented in this perspective suggests that the capital markets have overreacted to the likely uptick in commercial mortgage defaults and losses over the next few years. This article poses that the CMBX/CMBS spreads in the beginning of 2008 have substantially overestimated the default and loss rates, exceeding the realistic forecasts by as much as three times. CMBX tranches rated "A" and above are particularly undervalued from a credit performance perspective. In other words, looking at real estate market fundamentals, the authors view the widening of CMBX/CMBS spreads as unjustified.

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Quo Vadis Redux—Or, 'Where are We Heading?'

Daniel Rose, CRE

This speech, presented by **CRE Daniel Rose** at the first national conference of the Yale Alumni Real Estate Association in April 2008, reflects the thoughts of an experienced real estate professional at a time when U.S. markets are in turmoil. He shares thoughts and facts, and asks real estate professionals to think about…"where we have been, where we are, and where we should be going."

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Last Harvest: How a Cornfield Became New Daleville

Reviewed by Peter Holland, CRE

CRE Peter Holland reviews author Witold Rybczynski's 14th book, this one taking a look at a residential subdivision in Pennsylvania, and all the market forces that led to its unique development.

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Editor's Statement

BY MAURA M. COCHRAN, CRE, SIOR

Through a Muddy Crystal Ball

The views expressed here are those of Maura Cochran, Bartram & Cochran, Inc., and Marc Thompson, Bank of the West, and not necessarily those of the The Counselors of Real Estate.

"THE MARKETS ARE IN DISARRAY, LIQUIDITY HAS VANISHED AND none of us has adequately been able to describe a new model for capitalization of the real estate industry." So summarizes the status of the real estate capital markets by the economists who spoke at the recent Counselors of Real Estate meeting in Chicago. Indeed, many of the conversations at the meeting focused on the CMBS market, the lack of trust in the rating agencies and potential solutions to what is best described as a frozen capital market. Some members argued for fundamental changes such as a resolution to the conflict of interest that characterizes the rating agencies. Others believed that commercial real estate was being unfairly penalized as a result of the residential housing subprime debacle. They would return to the status quo once the financial system ultimately, albeit painfully, absorbs the subprime debt. Everyone seemed to agree that research on the situation was not much more than "Monday morning quarterbacking."

The industry, so far, has avoided responding to the looming issue of how it is going to evolve. While an editorial in *Real Estate Issues* is not adequate to resolve this vexing and complicated issue, I have attempted to summarize some recent news articles, and I have also had the opportunity to discuss the topic with two industry thought leaders who are active in capital markets.

Roger Lowenstein, in his *New York Times Magazine* article "How Moody's and Other Credit-Rating Agencies Licensed the Abuses that Created the Housing Bubble—and Bust," summarizes how the failure of the rating-agency system led to the subprime meltdown.[1] There are obviously many issues that have contributed to the problem. He cites Frank Portney, a professor at the University of San Diego School of Law, who believes that the conflict of interest has been caused by Moody's, Fitch and Standard & Poor's functioning as both the gatekeepers and the gate openers. And the perception of a conflict of interest would not be an issue, were the underlying underwriting accurate. Unfortunately, the agencies used a statistical model that relied on historical patterns of default that proved to be a poor indicator of future performance.

While rating agencies and underwriting practices set the stage, the problem took on monumental stature because of the desire of financial institutions to monetize their debt. "By providing the mortgage industry with an entrée to Wall Street, the agencies also transformed what had been the sleepiest corners of finance," wrote Lowenstein. "No longer did mortgage banks have to wait 10 or 20 or 30 years to get their money back from the homeowners. Now they sold their loans into securitized pools and—their capital thus replenished—wrote new loans at a much quicker pace." But, to do this, the purchasers of these securities needed to have a credit risk rating so that a "AAA" would be treated as any other "AAA" investment.

Aaron Lucchetti's article in the *Wall Street Journal*, "As Housing Boomed, Moody's Opened Up," states "…[the rating agencies] are under fire for putting top ratings on securities that ultimately collapsed in value.[2] Investors, many of whom relied on ratings to signal which securities were safe to buy, have lost more than $100 billion in market value. The credibility of the ratings system is in tatters as new downgrades of mortgage securities come almost weekly. Investigators from Congress, the Securities and Exchange Commission and several state attorneys general are examining the rating firms' practices."

The *Wall Street Journal* interviewed Moody's Investment Service President Brian Clarkson (who has announced his retirement) on his perspectives. He said, "We think there needs to be significant changes in the way these deals are being done in order for us to get comfortable. There has to be a lot more third-party oversight; somebody has to verify what's actually in them; you have to have strong representations and warranties."

When asked whether Moody's could have spotted the problems with fraudulent mortgages earlier, Mr. Clarkson replied, "We knew that there was fraud. We may have thought it was X; (it turns out) it was X to the 10th power… I hate going through this because it sounds defensive, but the fact is that there were people who were supposed to be doing due diligence on this who just didn't do it."

When asked about the prospects for reforming ratings, he said, "The ratings go to the creditworthiness of an instrument. Instead of trying to put things like volatility or pricing into the rating, we are looking at a different scale, like we did in banks. We feel like we have to. We've been asked by some regulators, 'You're on notice that people are using ratings for purposes that they weren't intended, so what are you going to do?' In banks, what we did was we came up with a bank financial-strength rating, which is a different scale (separate from the one that starts with triple-A). We've had that for 12 or 13 years, and very few people use it because they want the comfort of using the one that they actually know. We're not saying people will use volatility ratings or price ratings or transition ratings, but we feel like we have to put them out there. If you're concerned about volatility, here's the scale of volatility. It could be a triple-A-5 for example, with five being the most volatile."

Real Estate Issues wanted to look at this issue more closely. Why has that portion of the CMBS industry not associated with subprime housing taken such a hit? Why have major players, such as Prudential Financial Inc., (which last year contributed $3.6 billion of mortgages to the CMBS market), Merrill Lynch and Wells Fargo announced that they are exiting the business? But at the same time Principal Financial's chairman, Barry Griswell, states that the securitization business is still not only viable, but that "we think this will come back and be a very profitable business force in the future. So for our way of thinking, this is not the time to discontinue the business or get out of it. Good days are ahead in the business, we believe." In fact, Principal said that it saw a $70 million improvement in the value of its CMBS portfolio just in the month of April.

What is going to happen next? How can trust be restored to the market? Are other financial instruments being created to replace the CMBS model?


Dottie Cunningham, chief executive officer of Commercial Mortgage Securities Association (CMSA), the trade organization that represents the commercial real estate capital market finance industry, and **Marc Thompson**, **CRE**, **FRICS, CCIM,** senior vice president and lending manager for Western Region of Bank of the West, provided their insights into those questions.

Q. ***How have the subprime problems affected the CMBS industry?***

A. DOTTIE CUNNINGHAM: There were only $6 billion dollars of CMBS issuances in the first quarter of 2008, down from $60 billion in the first quarter of 2009. We believe that the main reason is that it is difficult for originators to know how to price deals in such a volatile market; but this is not due to the underlying fundamentals of the commercial real estate loans securing the outstanding bonds. The reality is that the subprime residential mortgage-backed securities (RMBS) has nothing to do with CMBS, but it has caused credit market volatility that is affecting all asset-backed products.

The volatility in the trading on the CMBX Index, which we believe is being caused by momentum traders rather than fundamental traders, also distorts the true picture of the value of CMBS bonds. As many investors use this

index as a mark-to-market tool, this has required many investors to write down their CMBS investments, whether the bonds are in default or not, and despite the continued performance of the bonds and the underlying real estate.

A. MARC THOMPSON: The subprime problems are affecting the CMBS industry in terms of "AAA" rated debt spreads increasing from 20 bps to 130 bps. Rate spreads have dramatically increased. In addition, investors do not trust the existing risk assessment system. There exists today a very shallow market for CMBS and RMBS, with very few participating buyers able to assess the risk and rewards.

Q. ***How have the rating agencies responded?***

A. DOTTIE CUNNINGHAM: The rating agencies have been focused on RMBS business, which is where they are feeling the most pressure. The agencies have, or are planning, to put out questions for comment, which CMSA has or will respond to. The SEC is actively looking at the rating agency industry to determine what steps it may wish to take to regulate the industry. The rating agencies have been developing internal policies to mitigate the conflict of interest issue, but are still evaluating what changes may be required as to their ratings. One idea that has been discussed both by the rating agencies and the regulators is to develop a new ratings scale for all structured finance products. CMSA opposes this idea as it will only cause investor confusion, further eroding the liquidity of the market for borrowers.

A. MARC THOMPSON: The failure of the credit rating agencies is, in my opinion, their poor assessment of credit loss risk. I believe we are still in the beginning of the downturn in this secular investment or income-property real estate cycle. Out of the total $3.3 trillion in income-property loans including CMBS, the credit loss risk is, in my analysis, to be between $750 billion and $1.1 trillion. This credit loss exposure is projected over the next three to five years, using my three approaches to valuing income property real estate debt held in CMBS, commercial banks and other financial intermediaries. Using a similar approach on $7 trillion in RMBS portfolios, the credit loss exposure is projected to be between $1.6 trillion to $2.3 trillion over the same three- to five-year period.

In my view, the CMBS industry does not appear to be responding except in support of past originations. However, I do not currently serve on industry association boards at this time to know for sure.

Q. ***How solid are the rating agencies underwriting of CMBS?***

A. DOTTIE CUNNINGHAM: Our members, who include many of the investors in the bonds, are not that unhappy with the rating agencies. They would like to see more transparency and standardization in both the ratings methodologies and surveillance press releases. Overall, the ratings assigned to CMBS are holding up, as evidenced by the delinquencies on the bonds, which are currently at a historically low level of 0.4 percent. Such delinquencies are expected to increase to a more expected ratio of 1–1/2 to 2 percent, but assumptions for increased delinquencies were imbedded in the ratings.

A. MARC THOMPSON: I support the credit rating agencies as a means to assess credit loss risk independently for investors, provided they understand how to assess it. Up to this point, credit rating agencies did not know what they did not know. Since 2005, the appreciation of both residential and income-property real estate ballooned because of poor credit quality assessments by the credit rating agencies. Speculation risk on the underlying collateral supporting the value of these securities went unassessed. Until that risk is appropriately assessed and removed from AAA tranches, investor confidence will remain very uncertain.

Q. ***How is the industry responding? Is anyone creating an alternative to the rating agencies?***

A. DOTTIE CUNNINGHAM: The feeling on The Street is that the rating agencies are here to stay, but need to be more transparent.

CMSA is responding by being very actively engaged on several fronts. We are focusing our energies on educating the press, regulators and legislators. Earlier this year we adapted a very aggressive public relations strategy. Many reporters needed more accurate information as to the commercial real estate market, and we have been providing them with access to such information. We have also been educating the regulators/legislators as to the differences between RMBS and CMBS, and are actively engaged in their discussions regarding securitization and credit rating agency reforms. The delinquency rate on the bonds, as mentioned, is only 0.40 percent compared to 8 percent in the early 1990s. Rental rates and occupancies remain stable in all but a few markets, and overbuilding is not the problem that it was in the early 1990s downturn. So, overall, the commercial market feels pretty good. If we could just get the capital markets back in gear, we could all get back to business.

A. MARC THOMPSON: At this point, credit rating agencies should not be relied upon as an independent assessment of credit quality on mortgage-based securities, commercial mortgage-backed securities, collateralized debt obligation, or asset-backed securities. They do not get it, in my opinion. I recommend separate credit rating agencies that are real estate debt industry focused, chaired by a real estate banker with real estate credit risk officers trained to understand speculation risk as measured against an index like SPCREX for CMBS and S&P Case/Shiller® Index for RMBS. In addition, property stand-alone risk could also be accurately assessed to determine credit loss risk. This would provide a better method to accomplish a reassessment of credit loss risk and reestablish confidence in the CMBS industry since having credit rating agencies change their ways will be relatively more challenging. The question is, what methodology of credit loss risk would be acceptable to the industry and still add confidence to the CMBS market? My independent proposal would be financially painful and therefore less likely to be adopted.

SUMMARY

The rating agencies are so entrenched into the financial system that to start over is not a viable alternative. If the past is any prediction of the future, any reform is going to need to be regulated. The deferral government process has started that process with hearings. All regulatory agencies are going to need impartial, unbiased, high-level advice, as they study the matter and make recommendations. Who is more qualified than the Counselors of Real Estate to contribute to the thought leadership on this topic? Your insights and comments are appreciated. The dialogue will continue.

MAURA M. COCHRAN, CRE, SIOR
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To send any article and/or the complete issue of REI electronically, please visit www.cre.org and go to the Real Estate Issues web page.

ENDNOTES

1. *New York Times Magazine,* April 27, 2008, "Triple-A Failure," by Roger Lowenstein

2. *Wall Street Journal,* April 11, 2008, "As Housing Boomed, Moody's Opened Up," by Aaron Lucchetti

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Green Building: Balancing Fact and Fiction

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BACKGROUND

A new phrase has entered the vocabulary of real estate: "green building." Everywhere one turns, there is yet another conference, article or marketing campaign advocating for green or sustainable real estate. The Urban Land Institute (ULI) has a monthly column, CoStar now includes green ratings in its building attributes, and many other self-appointed organizations are being created to address the new market. Major private and public real estate portfolios and their managers are responding to boardroom edicts with announcements that they will only acquire green buildings. Many architects have changed their standard contract forms to

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incorporate green advocacy, and legislators have been implementing green regulations ranging from Connecticut's new requirement that all buildings over $5 million pay for and attain green certification to Chicago's expedited permitting for projects proposing to commit to a green certification.

Amidst the hype, questions remain. What are the minimum requirements for meaningful green standards? What is measurable and verifiable? What is not? The green marketing phenomenon has not always been backed up by credible technical, policy or risk management information. Much of the literature depends on references only one step removed from marketing material. Claims are commonly made that green buildings will save energy (often very substantial amounts), increase service-worker productivity and decrease absenteeism, increase valuation, lower cap rates, decrease operating expenses and even command increased rental rates. Some of the claims for green buildings are truly striking, such as the assertion that putting up a green building certified with a particular rating system will decrease the incidence of asthma, or that increased natural light and access to views will result in better student performance.

The hyperbole of much of the green building movement emerges from its roots in environmental advocacy. As concern about the impact of climate change has migrated to corporate boardrooms, evaluating approaches to mitigation has moved to a business decision or fiduciary framework. Real estate professionals must look closely at green buildings precisely to distinguish the marketing perception of value from actual underlying cost and benefit along with their attendant market opportunities and risks.

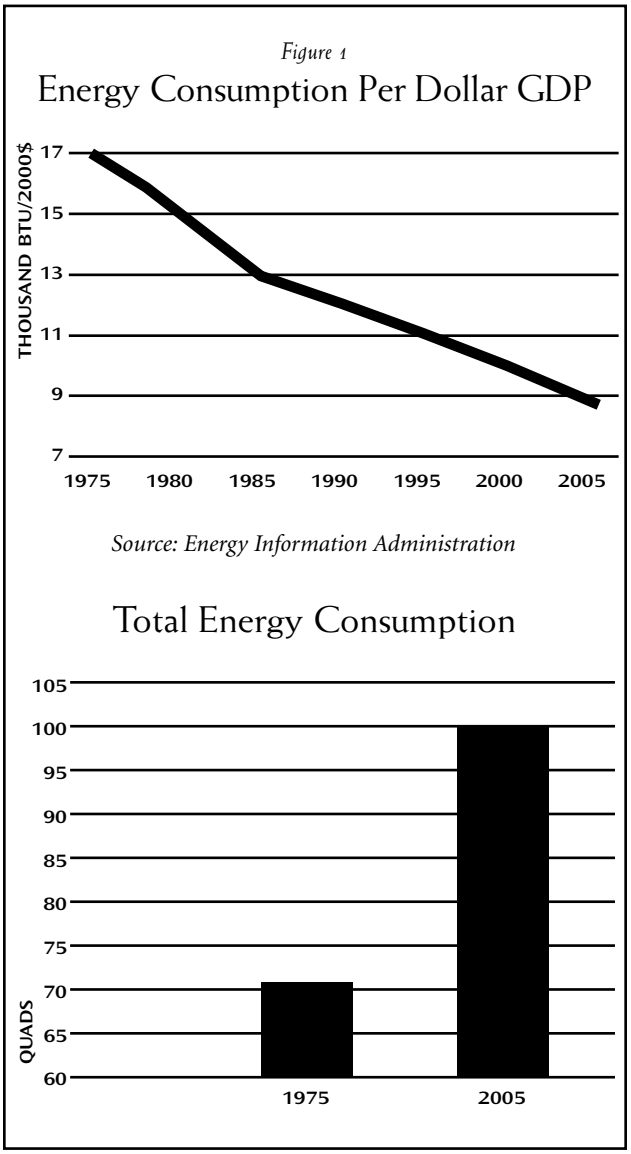
Surveying this new landscape, the Real Estate Center at DePaul University, Chicago, and Alberti Group organized a two-day conference in Chicago entitled, "Managing the Risk of Sustainable Buildings: Policy, Performance and Pitfalls." The conference brought real estate professionals together with attorneys, insurance and surety professionals, architects and engineers, and policymakers. It was the first conference of its kind because it sought to deal with the issues not from the point of view of advocates or believers, but of decision-makers seeking objective information to make risk-adjusted cost-benefit decisions. The theme of the conference speakers was not whether creating sustainable or green buildings is laudable, but how sustainability can be achieved with solutions that are also economically sound.

DISCUSSION

MODERATORS: ***One of the most important reasons for pursuing green buildings has been the growing problem of energy security and availability in this country. Combine this with the more recent calls for decreasing energy consumption as a result of concerns about global climate change, and it is evident that policymakers are faced with a very difficult task. The 2007 Energy Security and Independence Act is just one example of attempts to meet this challenge.***

Given the vast scope of this problem, what are some of the bigger issues and what will be the role of renewable energy in future?

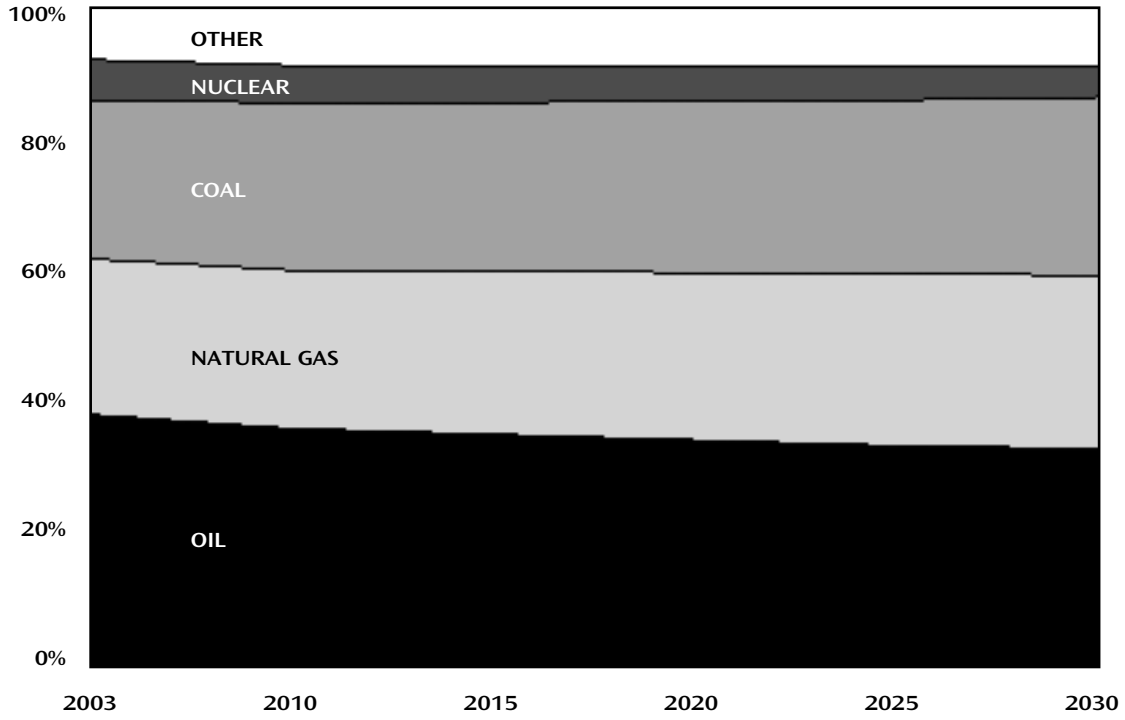
BEZDEK: Let me start with something that is well known to economists, the Jevons Paradox. Loosely put, this tells us that the more efficient we become in using a given resource (in Jevons' day it was coal for steam engines), the more we consume of that resource. Even though there is some debate about whether this will happen with the current energy supply from oil, natural gas and coal, there is more than enough evidence to indicate that this has been the case for the last 30 to 40 years. As the illustration (Figure 1) shows, the efficiency of energy use has increased dramatically, but at the same time energy consumption per capita has far outstripped the efficiency of use.[1]



This fact brings home the importance of keeping energy efficiency and energy consumption clearly separated in our minds. Energy efficiency is a very good thing, but this does not equal a decrease in total consumption and may in fact lead to an increase in overall consumption. Since energy security and greenhouse gas concerns are linked directly to the overall energy consumed and not to

Figure 2

World Total Energy Consumption by Fuel, 2003–2030



Source: Energy Information Administration, International Energy Outlook 2006, June 2006

the efficiency of the energy resource units, any policy that counts disproportionately on energy efficiency as a solution will likely prove ineffective.

Energy consumption worldwide is forecast to grow from 421 Quads to 721 Quads by 2030 (Figure 2). This massive forecast increase in energy use already takes into account significantly increased energy efficiency in all sectors. The forecast shows two further points of interest. First, it shows that renewable energy sources will make up a negligible portion of the fuel input. Second, it shows that oil, coal and natural gas will continue to be the fuels of choice for energy production for the near future. In fact, though not on this chart, photovoltaic, solar thermal and wind energy in the U.S. will account for only about one percent of the energy consumed in 2030. If this is the case—and it appears likely that it will be—concentrating only on policy decisions to subsidize these industries while demonizing oil and coal will further exacerbate U.S. energy supply, reliability and security problems.

MODERATORS: ***You have been involved in the economics of renewable energy for more than 30 years. What are your thoughts about the move towards using renewable energy as an important attribute of green buildings?***

BEZDEK: Anything we can do to decrease building energy consumption—while ensuring that basic building services and functions are preserved—may help, but I think there are three basic issues to examine. First, wind and solar technologies suffer from intermittency and lack of reliability associated with the natural processes they seek to exploit. If it's dark or cloudy or calm, these technologies will not provide the kind of power that is necessary to act as a primary supply source. This means that, as far as I can tell, some other fully redundant system must be available to deliver energy to the building. Backup generators or power sources can be very expensive and in some cases, such as diesel generators, a significant source of pollution. This situation makes it difficult for renewable energy systems to be a primary provider of energy for a building or complex of buildings.

Second, the payback period for the majority of renewable energy systems is still in doubt in many applications for extensive private sector use. These systems may be just around the corner from becoming economically viable, but at this time, most require substantial subsidies and tax incentives to continue their growth.

Third, it should be noted that the renewable energy and energy efficiency industry could become the basis of substantial economic opportunities for the U.S., including the creation of many "green collar jobs." Recent work seems to indicate that this sector of the economy will be growing at a significant rate, which we can hope may further reduce the time until more renewable energy technologies become economically viable.

MODERATORS: ***The use of energy by buildings in the U.S. has been put variously at somewhere between 30 percent and 40 percent of the total consumed. A strong motivator for the reduction of this energy consumption comes from calls for a reduction in CO_2 emissions to help prevent climate change. What do you see as the economic outcomes of policies that take up aggressive CO_2 reduction targets?***

BEZDEK: Attempts to reduce CO_2 emissions should concentrate on transportation sectors, but given the rapid growth of vehicle and air transportation in countries like China and India, it seems unlikely that the tide can be stemmed. In 2002 there were about 800 million vehicles in the world; by 2030 there will be 2 billion—or more.[2] A similar escalation in air traffic is expected, and annual growth rates in air transportation services in China and India are forecast to be in the range of 8–12 percent annually for the next quarter-century. Although hybrids, electric cars and other technological changes are gaining ground, they have not been adopted in sufficient numbers to stop the current growth trends in transportation liquid fuel requirements in the near future. This means that the building sector could become the major focus for regulation that aims to reduce the rate of growth of CO_2 emissions. Such a burden on a single sector will be difficult if not impossible to bear.

MODERATORS: ***Let us imagine that we were able to solve the technical problems in increasing energy efficiency and decreasing energy consumption along with achieving a number of other green attributes. We would still have to face some basic real estate issues related to proper incentives for owners and tenants. When it comes to sustainable building, what are the differing incentives for owner-occupants versus income-property owners?***

JEWELL: First you have to agree on a definition of sustainability and/or green. Are you talking about superior energy efficiency, which has a direct impact on operating costs? Or more subtle elements, such as "green cleaning" or the presence of bike racks and showers to accommodate occupants who wish to leave their cars at home and cycle to work instead?

In the case of owner-occupants, the costs and benefits of pursuing sustainability are calibrated in both dollars and what one might call "PR points." In other words, it's not always as simple as investing incremental dollars to yield incrementally lower operating costs. Many owner-occupants build a "green" trophy asset so that they can telegraph the message "I am an environmental leader" to various audiences from Wall Street to Main Street. It's unfortunate, but sometimes you see a real disconnect in decision-making—for example, when a CEO invests buckets of shareholder capital in a new, high-profile LEED* Platinum-rated headquarters while many of the company's other office buildings ignore even the lowest-hanging fruit, such as grossly inefficient lighting systems controlled by one light switch per floor.

On a related note, you're seeing more and more income-property owners and managers taking the same "trophy" approach to sustainable building, particularly in high-profile markets where tenants are starting to demand green attributes as they lease new space. Often enough, tenants are unclear themselves as to what constitutes green and are rarely able to see past the trophy sticker unless it inures to their bottom line.

Before long, you come face to face with the old "stock" versus "flow" question: If you focus all of your greening resources on the flow of new buildings, what do you do with the stock of grossly inefficient ones that you already own?

**Leadership in Energy and Environmental Design (LEED) Green Building Rating System™*

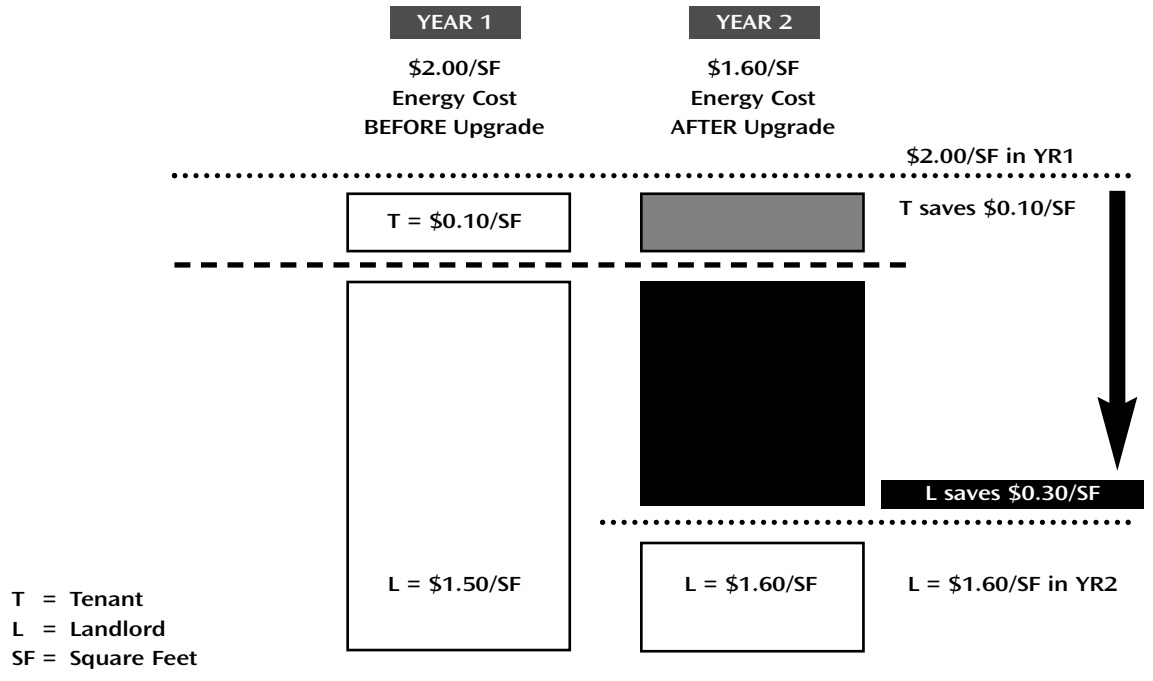
MODERATORS: ***Who has a greater motivation to take a portfolio-wide approach to sustainability, owner-occupants or income-property owners?***

JEWELL: Well, that depends. One would think that income-property owners would be more highly motivated than owner-occupants when it comes to venturing beyond the trophy mentality and pursuing at least some elements of sustainability (especially the ones that influence net operating income) portfolio-wide. After all, every dime of higher rental income or lower unreimbursed operating expense per year holds the *potential* to support an extra dollar (or more) of incremental asset value, assuming a capitalization rate of 10 percent. If green attributes do, in fact, make space easier to lease and/or less expensive to operate, landlords should be very motivated to jump on the sustainability bandwagon to make *all* of their properties more competitive, profitable and valuable—not just the green trophy buildings they currently have in development.

Before you begin to harvest that increased net operating income and asset value, you have to determine how your existing leases would allocate the costs and benefits of doing so. And that is where so many landlords get stuck. Instead of actually benchmarking their existing buildings' energy performance (using the ENERGY STAR portfolio manager tool, for example), studying the expense-sharing provisions in their existing leases, and doing the calculations, they take the easy way out and make decisions based on myths: "Our properties are already as efficient as they can be." Or, "Our third-party property managers already have energy under control." Or, "Energy is a pass-through." Or, "It doesn't make sense to invest dollars in improving energy efficiency in mid-lease because the tenant would get all the savings."

Once you decide to base your decisions on math instead of myths, you should find plenty of motivation to apply at least some sustainability initiatives across your entire stock of existing income properties. Sure, you'll have to look at which leases are gross, net or fixed-base. And in the case of the fixed-base leases, you'll have to figure out

Figure 3
The "Fixed-Base" Lease



where expected savings would be enjoyed by the tenants, the landlord or both (Figure 3). You'll also want to know which leases have language permitting the landlord to assess tenants for the cost of capital improvements that reduce operating expenses. In the end, though, the research and math will give you the confidence to invest time and capital in sustainability initiatives. That homework will help you answer the questions; "who should pay?" and "who would benefit?"

MODERATORS: ***How should a landlord approach quantifying the sustainability value proposition?***

JEWELL: As I mentioned earlier, you have to ask, "What are the costs and benefits of increased sustainability, and how are they allocated between the parties?" And in this context, costs and benefits include not only investments made to support enhanced efficiency and the resulting savings in operating expenses (for example, lower utility bills). You also need to consider indirect effects, such as the cost of increased vacancy when a building fails to compete in a world where a certain level of efficiency becomes "market," or conversely, the benefit of improved tenant attraction and retention if that same building's innovative energy-efficient systems, operating practices and/or other green attributes are admired in the marketplace.

MODERATORS: ***Why do you think that rating systems such as LEED and ENERGY STAR have become so popular, and what influence have they had on the commercial real estate market?***

JEWELL: We live in a culture where 30-second sound bites play a large role in influencing decisions, even if the underlying issues are complex—think global warming or the presidential election. Property management roles are over-tasked and understaffed. When it comes to hot button topics like "environmental," "green" and "sustainable," managers gravitate toward easy-to-understand proxies for "making the grade" or, in keeping with the hyper-competitive spirit of commercial real estate, "being better than the next guy" so that their building gets and keeps the best tenants. The ENERGY STAR label for buildings is 10 years old this year, and I would say that over the last decade it's had a profoundly positive effect on making the concept of *normalized building energy performance* accessible for a wide variety of real estate decision-makers. It really has become the "miles per gallon" sticker for buildings.

That said, in the case of ENERGY STAR, the fact that a building scores in the 75th percentile (or higher) and receives the label does *not* mean that building has no room for improvement on the efficiency front. As an example, our engineers have identified plenty of cost-effective energy-conservation measures for buildings with scores of 90 and higher. So, one downside of the ENERGY STAR label is that some managers think of it as something that they hurry up and get so that they can focus on other things. Building owners shouldn't think getting an ENERGY STAR label means, "No potential for further efficiency improvements here."

By the way, unless a building scores 75 or higher and wishes to receive the label (which requires verification by a third party), you can't be sure that the right data points were entered into the benchmarking tool. I can assure you that there are plenty of buildings out there that have erroneous scores due to overstated operating hours and other specious inputs. Just because a building claims its ENERGY STAR score is 74 doesn't mean it is.

Using a LEED rating as a proxy for efficiency presents additional challenges. As you may know, LEED grades a building on many dimensions of sustainability, only one of which is energy efficiency. In the most recent version of *LEED for Existing Buildings: Operations and Maintenance,* if a building has enough points in categories other than energy, that building could attain LEED certification with an ENERGY STAR score of only 69. LEED provides a systematic approach to gauging some attributes of a building's sustainability. However, if your main interest is enhanced operating efficiency, you'll want to have more than a 30-second sound bite level of understanding when leasing, buying or selling commercial real estate.

MODERATORS: ***Until now, the basic methodology for the technical and non-technical studies often cited for sustainable outcomes have been pretty casual. This will begin to change as the level of objective scrutiny increases as well as the number of unbiased scholars interested in this area. Attempts are being made to acquire and analyze some data, though there are still fundamental problems with method and with adequate data for meaningful analysis.***

Having looked at a swath of the extant literature regarding green building valuation, what have you concluded about the nature of the current research in this arena?

MCCABE: Quite frankly, on the valuation side, it is lacking. This really shouldn't be a surprise. The demand to collect and analyze information on green buildings or sustainability more broadly has quickly moved from a low hum to a high frequency. Shareholder initiatives, consumer campaigns and new legislation are requiring investors to be quick on their feet in addressing these issues when considering future risk and opportunities. Only recently has sustainability been seen as germane in effectively managing real estate assets.

Due to this rapidly changing landscape, we're playing catch-up. Unfortunately, we don't have hard numbers on the subject because there are limited means of screening the properties (LEED, ENERGY STAR, Green Globes rating) and no comprehensive mechanism to capture the data. We really need to do the work first to define the characteristics and variables that describe a property's sustainability, and then we can substantively start the process of tracking and measuring asset, portfolio and investment performance. All of this is going to take time.

MODERATORS: ***What kinds of data are available to draw on in trying to answer these questions?***

MCCABE: Much of the analysis around sustainability has focused on first costs and projected energy efficiency. There is much less robust work around rental rates, vacancy, turnover and value premiums. The easiest way to analyze value enhancement is to compare returns on comparable green buildings to conventional properties. The data set is disappointingly small. CoStar recently upgraded its database to allow for designation as a LEED or ENERGY STAR property. By late 2007, CoStar had collected basic performance data on 355 LEED-certified properties and 973 ENERGY STAR buildings as compared to more than one million conventional buildings in their database. Taking a look at the CoStar date in more depth, RREEF published a paper in November 2007, "The Greening of U.S. Investment Real Estate—Market Fundamentals, Prospects and Opportunities," looking at the CoStar data in more depth. RREEF's drill-down analysis targeted the office sector. It identified 232 LEED-designated office buildings, 114 of which were designated Class A. This compares to 14,000 Class A properties across the CoStar universe. As a first cut, the LEED Class A buildings outperformed the broader data set both in rents ($39/sq. ft. vs. $29/sq.ft.) and occupancy (7.4 percent vacancy vs. 11.6 percent). While this study shows suggestive trends, it cannot be considered statistically significant based on its small sample size and because it was unable to account for location, age and other appropriate adjustments.

In March 2008, CoStar released the results of a new study, the Peer Selection Approach. The findings were broadly disseminated and widely communicated. This approach concluded that LEED buildings command an $11.33 rent premium over their non-LEED peers, sold for $171 per square foot (64 percent higher) and reflect 4.1 percent higher occupancy. Using the same analytic approach, it found that ENERGY STAR buildings command a $2.40 rent premium and 3.6 percent higher occupancy.

The conclusions reached by this analysis are limited by its small sample size and the challenges inherent in adequately considering all of the variables that contribute to rents, vacancy and valuation. The authors' alternative conclusion using the Hedonic Pricing Model was not widely communicated. This approach found that LEED certification contributes $24 per square foot (a 9 percent premium). This approach also is limited statistically by its small sample size, but is better controlled for age, size and location. While the adjusted R-square is low at 47 percent, the authors did conduct an analysis of the residual error to check for systematic bias. They did not find any systematic bias, and therefore have some confidence in these results. Because the underlying methodology was not fully presented, it is difficult to make an assessment of the quality of the information or its applicability in making investment or underwriting decisions.

With regard to long-term financial performance and the impact on value and discount rates, again, the data is sparse. Clearly, if energy efficiencies translate into lower operating costs, then, as compared to a conventional property, a sustainable one would have higher net operating income and consequently a higher value. One can also posit that these properties have inherently lower risk of exposure to volatility in price and resource availability, which again should translate into lower capitalization and discount rates.

MODERATORS: ***What types of common difficulties have you seen in the data and what provisional conclusions have you drawn?***

MCCABE: The two most common errors are considering sustainable features as distinct and separate from the overall real estate investment decision, and drawing broad conclusions from a limited data set, or one derived from opinion or hypothetical numbers. There are unique risks and benefits that accrue to sustainable features. What is important is that the analysis incorporate a sophisticated discussion of the risk calculation inherent in investor decision-making and valuation, and provide a framework for evaluating the impact sustainable attributes will have on the bottom line.

Do sustainable design features lead to higher rents, faster absorption and lower turnover? It's difficult to say. Some anecdotal evidence and even some analysis suggest that sustainability has a positive impact on absorption and turnover. At this point, we don't know if tenants will pay more for sustainable features.

Are sustainable properties more valuable over the long term? Once again, there's not enough data to answer this question. Still, logic suggests that a higher net operating income (due to lower operating expenses) will lead directly to higher property values. We should also keep in mind that energy costs, which are increasingly influenced by developing markets around the world, will continue to exert pressure on overall pricing and availability. If we lower our exposure to energy price volatility and resource availability, we reduce our risk. This should mean a lower capitalization rate and/or discount rate.

MODERATORS: ***We have little data to help resolve the question of valuation of this new type of building. If these buildings can actually increase NOI as a result of decreased operating expenses, or have a lower capitalization rate in recognition of risk reduction from energy price or supply shocks, many in the industry would see this as more than adequate reason to pursue a green strategy. However, to achieve these ends the buildings would have to perform not only at inception but over their operating lives at a higher level, particularly in terms of energy consumption. This improved performance can be achieved, but it is not yet clear at what cost or if rating system certifications can act as viable proxies for energy performance during the operations phase.***

In very general terms, what should an owner know at the outset when thinking about building or purchasing a green building?

WOODS: In today's excitement about sustainable, high-performance and green buildings, it is unclear what is meant by "building performance." Each of those descriptors alludes to some improved building performance over a baseline or reference which is seldom defined in measurable or verifiable terms. As a result, *accountability* is seldom realized for delivering or operating buildings that meet objective, measurable criteria that are of primary importance to the building owner or tenant.

One of the promised outcomes of sustainable, high-performance, green buildings is reduced energy consumption. Expectations have been raised that these buildings can reduce energy consumption by 30 percent or more compared to the existing building stock. This promise is not new: reduced energy consumption in buildings has been a goal since the energy crisis of the 1970s. When the first version of the standard on energy conservation in new buildings was published in 1975 by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE Standard 90-75), the average annual energy consumption of existing commercial buildings exceeded 100,000 Btu/gross sq.ft. (GSF), according to the Commercial Building Energy Consumption Survey (CBECS) database maintained by the U.S. Department of Energy. Since 1982, the target for annual energy consumption of CBECS buildings has been 55,000 Btu/GSF, but the actual consumption has been statistically flat at 88,000 Btu/GSF. The fact is that the targets for decreased energy consumption have not been met for the last 25 years and are unlikely to be met in the near future. This doesn't mean that some buildings may not achieve these targets, especially if they are driven by measurable and verifiable performance metrics, only that a large-scale average reduction from the benchmark will be quite difficult. In part, this is a result of the continued increase in energy consumption pointed out by Roger Bezdek earlier. Current targets being bandied about such as "net zero energy consumption" or "carbon-neutral" by 2030 pose challenges far beyond the 55,000 Btu/GSF target which has proved unattainable. It should be kept in mind that even in highly rated green buildings, energy consumption can be far below or far above the benchmark.

It is important that green buildings first provide the functions for which they were intended by the state and the owner: health, safety, security, comfort and well-being, occupant performance, productivity, and attractive rate of return on investment. Thus, building performance should be defined as a set of measured responses of a building, as a system, to actual or anticipated physical or social forcing functions. In this regard, energy consumption is a required component to achieve these measured responses, but energy should not be wasted. This principle leads to a goal of increasing energy efficiency, which may be defined as the ratio of the *energy required* to provide for the health, safety, security and functions within the building divided by the *energy consumed* to do so. In this context, the difference between energy required and energy consumed is *energy wasted*, which is to be minimized together with the *energy required*. Accountability can then be ascertained in terms of a defined set of building performance criteria.

My experience in reviewing cases of sustainable, high-performance and green buildings, as well as those that were not so labeled, reveals that building performance assessment requires compliance with a comprehensive set of criteria. Otherwise, the focus of the assessment becomes biased toward selected limited criteria. For example, a goal for a low-energy consumption rate may lead to a decrease in occupant productivity if there is an increase in occupant discomfort. Functional considerations often clash with green attributes, just as one green attribute may clash with another. My own experience has indicated that there are major award-winning green buildings that do not stand up to closer scrutiny once they are fully operational. I cannot say if this is a common or systemic problem, but I can say that owners need to be particularly careful if they are actively seeking to increase the real performance of their buildings.

Achieving and maintaining a sustainable, high-performance or green building requires early and clear definitions of site-specific measurable criteria. Without such criteria, and the measurement and verification protocols to determine compliance, few buildings can deliver the outcomes with adequate accountability to create higher asset value. In fact, the more often owners hold the programming, design, construction and operation parties accountable for improvements in building performance, the greater the chances of reaching the worthwhile goals of this kind of building.

MODERATORS: ***One of the more hidden aspects of green building remains the legal risk for the parties involved. Proper leasing language, surety bonding concerns, constitutionality of green zoning or building requirements, fiduciary duties of portfolio managers preferentially acquiring green buildings, and the developer's failure to meet the expectations of tenants or condo purchasers are just some of the issues. A specific area of concern has been the role of the architect (and engineers as well) in this process. You have talked about the realignment of the traditional architectural scope and delivery of building performance and how that poses some fundamental legal risk for both the owner and the architect, especially since the traditional affirmative duty of due diligence and unbiased counsel to the owner may be changing.***

What do you see as the most important change in the role of the architect in green buildings?

BUTTERS: Until the onset of "green architecture" as it is currently characterized, the architect would develop his or her work product in a manner best calculated to meet the owner's needs. In theory, the architect worked to optimize the owner's interests in the context of a particular project without taking an advocacy role for any particular solution. However, current "green design" thinking changes that approach and places the architect in an advocacy role. In addition, the architect's work has traditionally been separate from performance. However, as the architect begins to advocate in favor of particular design solutions—presumably on the basis that they will be justified by the performance—that separation will begin to dissolve and the architect will find himself or herself being painted as responsible for building performance.

MODERATORS: ***What are some of the most important risks facing the owner who is hiring a design professional to produce a green building? What are the risks for the architect/design professional?***

BUTTERS: Of course the owner remains responsible for the financial performance of the building. If the owner begins to include promised green design performance levels in a project pro forma, or otherwise makes financial decisions predicated on the promised performance characteristics of a green building, the owner must first develop a very high degree of confidence in those promised performance characteristics, or run the risk that if the building fails to perform as promised the financials

will be negatively affected. The risk for the design professional is that he or she may see increasing financial liability in circumstances where buildings fail to perform at projected levels. Unfortunately, some early evaluations suggest that performance projections are indeed overstated. As such, both the owner and the design professional may see increased exposure if the projections are not an accurate predictor of actual performance. This can have serious implications in the event of a dispute. The design professional may not actually be insured for this new role as advocate and that may mean that the owner has no recourse against the architect's insurance if the building fails to deliver on its promises.

MODERATORS: ***What role will the new American Institute of Architects 2007 Contract Documents play in either increasing or decreasing the risk to owners and architects?***

BUTTERS: The AIA 2007 standard documents begin to create affirmative obligations on the part of the design professional to consider, evaluate and propose green design options. Because the contract is one source of the standard of care in the tort sense, changing the contract will have an effect on the standard of care. Although the actual effect is as yet uncertain, it would appear that an increase in the nature, quality and extent of the contract duties relative to green design (something the 2007 AIA contract documents undeniably embody) will in turn have an expansive effect on the duties and the applicable standard of care attendant on the practice of the design professions—both in the green context and in general.

MODERATORS: ***One of the most interesting developments in the promulgation of sustainable or green buildings has been the flurry of legislative and regulatory activity at all levels of government. At the national level, Congress passed the Energy Security and Independence Act of 2007, which explicitly references green building protocols and rating systems. At a federal level, the GSA, DOD, EPA and DOE, among many others, are all creating and promulgating regulations that embed green attributes into their procedures. Most of this is primarily driven by a hope that green buildings will save energy. The EPA also appears to have an interest in acquiring regulatory authority over indoor air quality. State and local governments are also actively participating in promulgating green through legislative and regulatory activity.***

Can you help us understand some of the issues involved in the current legislative and regulatory activity taking place around the country?

DEL PERCIO: As concern about the state of the natural environment continues to rate higher on the public's agenda, more state and local governments have enacted legislation to combat the significant environmental impact of building construction and operations. As of August 2007, 24 states and 90 local governments had adopted the U.S. Green Building Council's LEED green building standards, while 12 states had included the Green Building Initiative's Green Globes system in legislation. In the rush to respond to what many believe to be an imminent natural crisis, much of this legislation has been quickly passed without consideration of its broader legal ramifications.

First, some pieces of legislation have been poorly drafted, incorrectly defining significant terms. For example, Washington, D.C.'s Green Building Act of 2006 seems to misunderstand the fundamental concept of a performance bond, which led the National Association of Surety Bond Producers to refuse to issue such bonds until the Act's language was clarified. Second, an increasing number of laws are now applicable to private construction, obligating projects over a certain size to comply with an independent, third-party rating system over which the local government exercises no control. In some ways, this type of legislation is simply undemocratic. It takes local government completely out of the decision-making process and hands control over the building code to a third-party organization over which the public exercises zero oversight. Third, pursuant to Supreme Court case law, constitutional questions exist over the ability of a local government to regulate private land use through the application of rating systems that may not, in fact, bear a substantial relationship to the public health, safety, morals or general welfare. Finally, legislating one specific building rating system into law may present antitrust law implications under both statutory and case law authority.

Enacting legislation without considering these critical legal implications is irresponsible and dangerous to the long-term prospects for the sustainable building movement at large. Every real estate industry stakeholder will agree that environmental conservation is an important goal. However, by quickly passing legislation that does not consider all potential legal ramifications, state

and local governments may ultimately end up pushing the building industry away from that desirable outcome. A morass of litigation challenging regulatory schemes that are poorly drafted or essentially illegal could slow the sustainable building movement's positive momentum. Questioning the validity of these schemes should not be construed as legal pontification, but rather an important piece of the dialogue that will, hopefully, result in a more sustainable outcome.

MODERATORS: ***Why do you think that this legislative and regulatory activity looks to rating systems to solve the problem of decreased energy consumption instead of crafting performance-based solutions?***

DEL PERCIO: The simplest answer may be that for most municipalities, it's the path of least resistance. Many local governments that have enacted green building legislation are small and don't have the resources to craft their own green building code that might require compliance with a certain performance-based standard. Moreover, these municipalities are not positioned to invest the requisite time and money in the ongoing performance-verification process that such schemes would entail. Third-party rating systems are well-known, are part of extensive marketing campaigns, and have received significant press as the green movement has grown over the past few years. From a politician's perspective, deferring to third-party systems that have a certain cachet in the public's opinion may be preferable to assembling a task force that could take months to deliver recommendations on how to improve energy efficiency or upgrade aging building infrastructure. A second, more significant reason—though it is likely municipalities have yet to even address this scenario—is that performance-based regulatory schemes at the local level would involve significant legal considerations. Tying a building's actual performance over time to compliance with a building code would dramatically change traditional construction contract and insurance policy relationships. Such a scenario refers back to my initial answer—investigating the twists that performance-based regulation would present to stakeholders could require significant time and effort that state and local governments—at least to date—do not seem interested in spending. ■

ENDNOTES

1. Rubin & Tal, "Does Energy Efficiency Save Energy?" *CIBC World Markets, StrategEcon,* Nov. 27, 2007.

2. Dargay, Gately and Sommer, *Energy Journal*, October 2007.

FOCUS ON REAL ESTATE

Investing in Residential Real Estate in the United States of America

BY RICHARD A. HANSON, CRE

This article is developed from CRE Richard A. Hanson's presentation made at MIPIM in March 2008. The presentation addresses U.S. real estate development patterns and investment in view of current market challenges, global energy consumption and population growth.

AN INDUSTRY IN CRISIS: OPPORTUNITY OR RISK?

There are many factors which compel real estate professionals to use caution when investing in the residential sector in the United States. Today, the U.S. housing industry is in crisis. Land value, homeowners, construction workers, investors, banks, school districts, and appraisers: all have been adversely affected by the declining real estate market. The municipalities that depend upon jobs, home values and tax revenue linked to U.S. housing are now confronting deficits, budget shortfalls and social deterioration.

The crash of the U.S. housing market (Figure 1) and the subsequent drop in home prices are affecting the U.S. economy. The crisis and its causes are complex but can be summarized as a drop in buyer confidence, followed by an increase in foreclosures—much of it the result of unbridled lending and imprudent borrowing. Exactly when we will return to a time of normalcy and confidence in the real estate market isn't known, but it is unlikely to be any time soon. Real estate's importance to the U.S. economy is profound: homebuilding is a major source of employment in America.

REASONS FOR HOPE FOR THE U.S. HOUSING MARKET/INVESTMENT

News reports regarding markets for U.S. housing are negative and grim today. The media provide little confidence for potential investors in housing stocks or related financial instruments. Yet there are indicators that the weakened perception of U.S. residential markets may be more psychological than technically true.

GROWING NEED FOR HOUSING IN THE UNITED STATES

The U.S. population is growing at its fastest pace in 40 years. This is the result of both high fertility rates (births) and immigration. Immigration rates remain consistent, and the U.S. birth rate is boosted by newcomers who are having larger families.

Despite the current bad news and slowdown in U.S. real estate market absorption, the U.S. population is expected to increase by 130 million by 2050 (Figure 2). Such a rise in population growth will create an enormous demand for

About the Author

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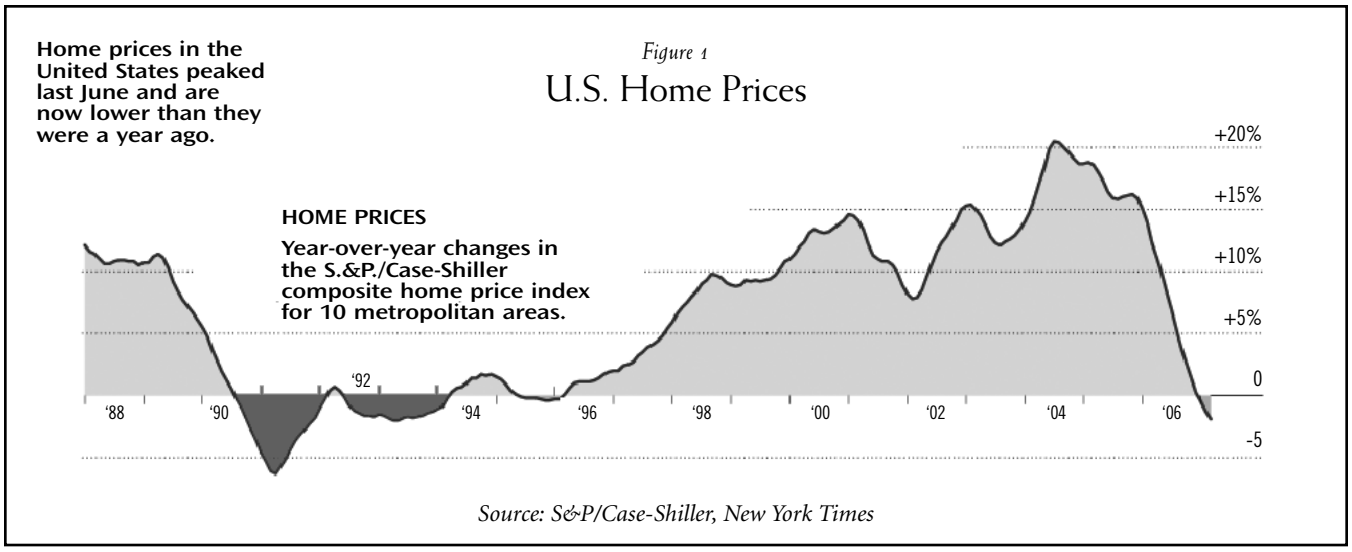
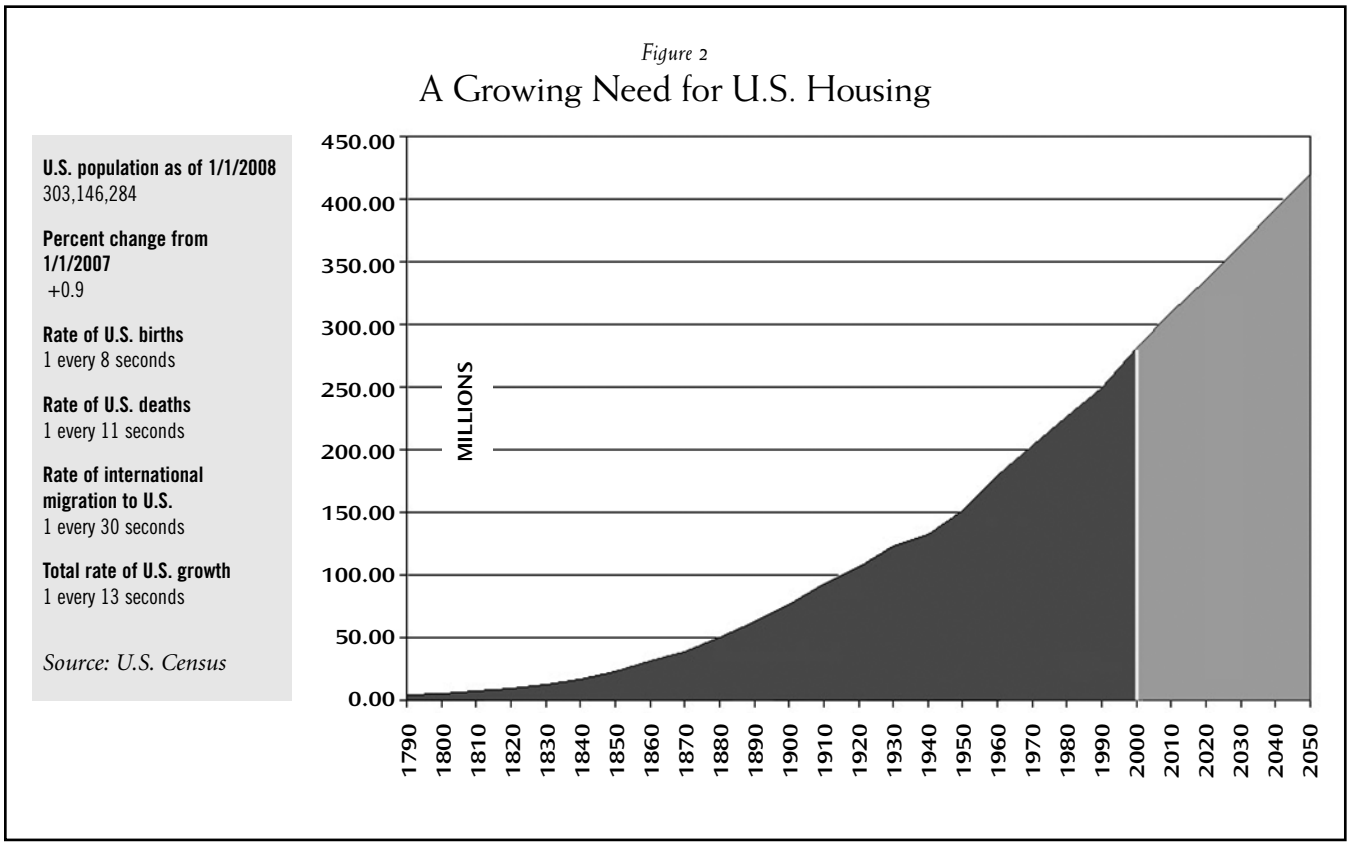




housing. A report prepared by Virginia Tech estimates that as much as half of all real estate development projected by 2025 had not existed in 2000. This increase represents more than $10 trillion dollars of new investment for residential structures and more than $23 trillion in non-residential facilities (roads, schools and infrastructure).[1]

BENEFITS OF HOME OWNERSHIP AND INVESTMENT

With the rapid and consistent increase in the U.S. population, housing prices have also increased, doubling in the past ten years alone. This has made home ownership one of the best investments over the short and long term:

- U.S median home prices increased nearly 100 percent from 1997–2007.

- From 1997–2007, the Dow Jones Industrial Average increased 51 percent.

American home ownership is a foundation of the U.S. economy, representing more than $21 trillion dollars in value, with nearly $10 trillion in equity in those homes.

Home ownership represents a significant portion of American net worth (assets/liabilities), with 35 percent of assets positioned in home equity. As Figure 3 suggests, the value of a home purchased in 1997 may have doubled by 2006.

Clearly, U.S. home investments during the past 10 years have been a wise investment, yielding more than 20 percent in annual returns (Figure 4).

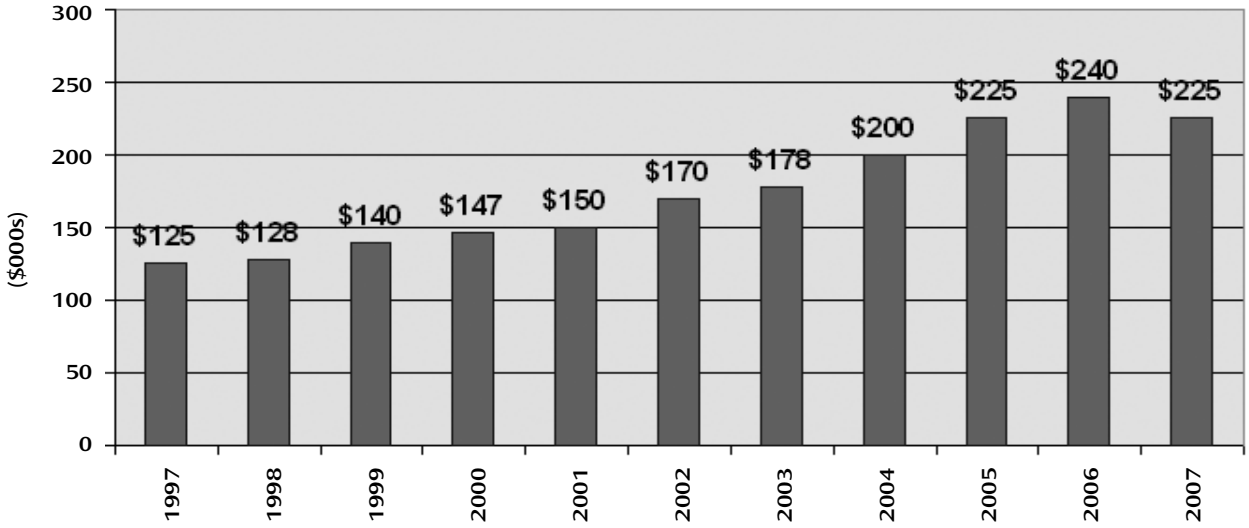
Despite the increasing cost of energy and construction, owning one's own home has outpaced inflation. Those who have failed to increase their net worth:

- never purchased a home;
- purchased in 2006 and sold in 2007 or 2008;
- borrowed up to 100 percent of the equity in their home in markets that have now seen declines in home values, and are forced to sell.

Home buyers who speculated on the continued rise in home prices are a large part of the problem in our current real estate crisis. Investors increased demand beyond any true market level. Many abandoned unsold units, heaving them onto the marketplace, exerting more pressure on a bloated inventory and further lowering prices. The good news is that most of those speculators are now gone, and the additional demand they "created" is being absorbed.

Figure 3

U.S. Median Home Prices 1997-2007



Source: William Cohen, Mesa Development, LLC

Figure 4

Returns on Investment in Home (assuming a 10 percent down payment)

1997-2001	**=**	**24.5% annual return**
2001-2007	**=**	**29.2% annual return**
1997-2007	**=**	**22.0% annual return**

Considering a 100 percent increase in real estate value from 1997, one may wonder: what's wrong with a downturn in real estate values, if you "made" 100 percent? The trouble began when banks permitted homeowners to borrow against their increasing equity. Borrowers used the proceeds to advance their lifestyle, purchase a new car

or buy a bigger home. Banks have corrected these practices, and it is increasingly difficult now to borrow both first and home equity loans in the U.S.

U.S. EMPLOYMENT ENVIRONMENT AND IMPACT ON INVESTMENT IN REAL ESTATE

Employment and job creation are critically important factors in determining demand for and pricing real estate. Employment data is one of the most carefully tracked, reported and often misunderstood indicators, as it relates to real estate. The past decade saw a strong growth in jobs in the U.S. However, national statistics fail to capture the more significant local market conditions that have a greater impact on local market conditions and investment.

The strength of U.S. employment (Figure 5) suggests that the housing market should be strong, at least through early 2008. To the contrary, it is weak. Since March 2007, the employment picture has become increasingly negative. Popular perception now is: will I have a job? can I pay my bills? And this absence of confidence has transferred to the housing markets, evidenced by people NOT making a decision to buy or sell—further depressing an already ailing market.

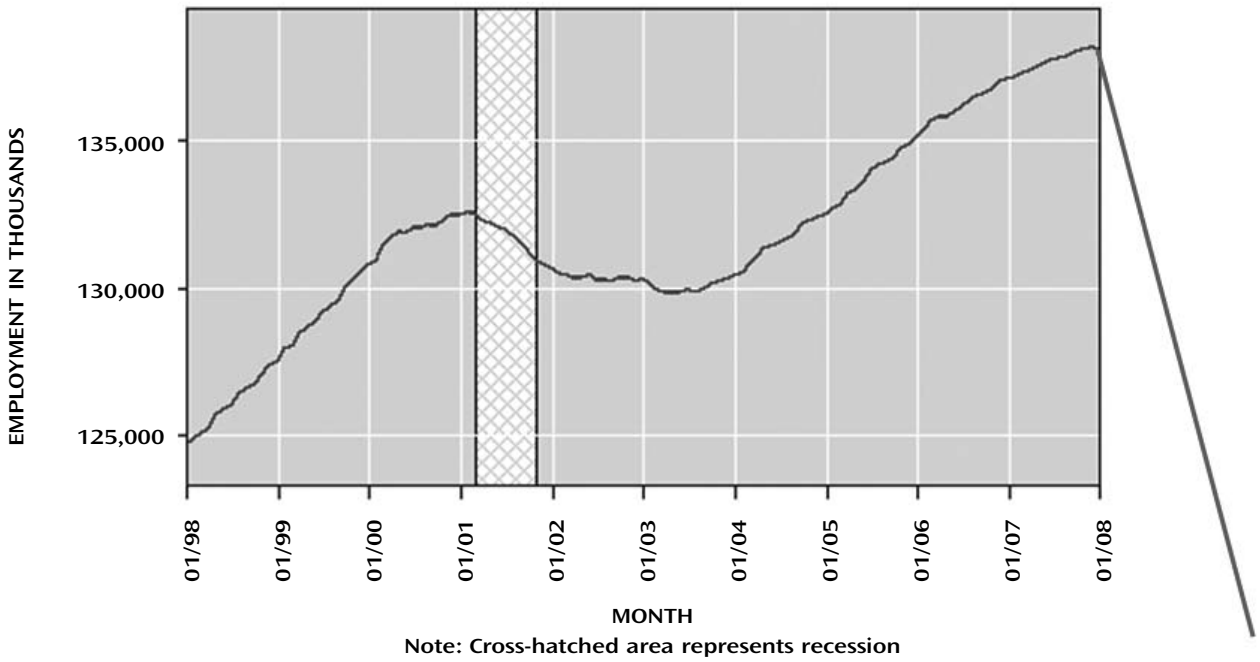
LOW INTEREST RATES BENEFITED INVESTMENT IN REAL ESTATE

U.S. investors and homeowners have benefited from historically low interest rates for the past two decades. Low rates enabled large numbers of investors and individuals to purchase homes with low cost financing. Homeowners and investors combined the low cost of financing with double-digit home price increases to use highly leveraged financing strategies to purchase bigger homes. With employment fears abated, loan affordability made it possible to finance a home.

As financing requirements tighten, and home values soften or even decline, many of those homeowners are now financially challenged. Exotic mortgages widely used in a flush and expanding real estate market are resetting at rates higher than many homeowners can reasonably afford (Figure 6).

Figure 5

U.S. Employment

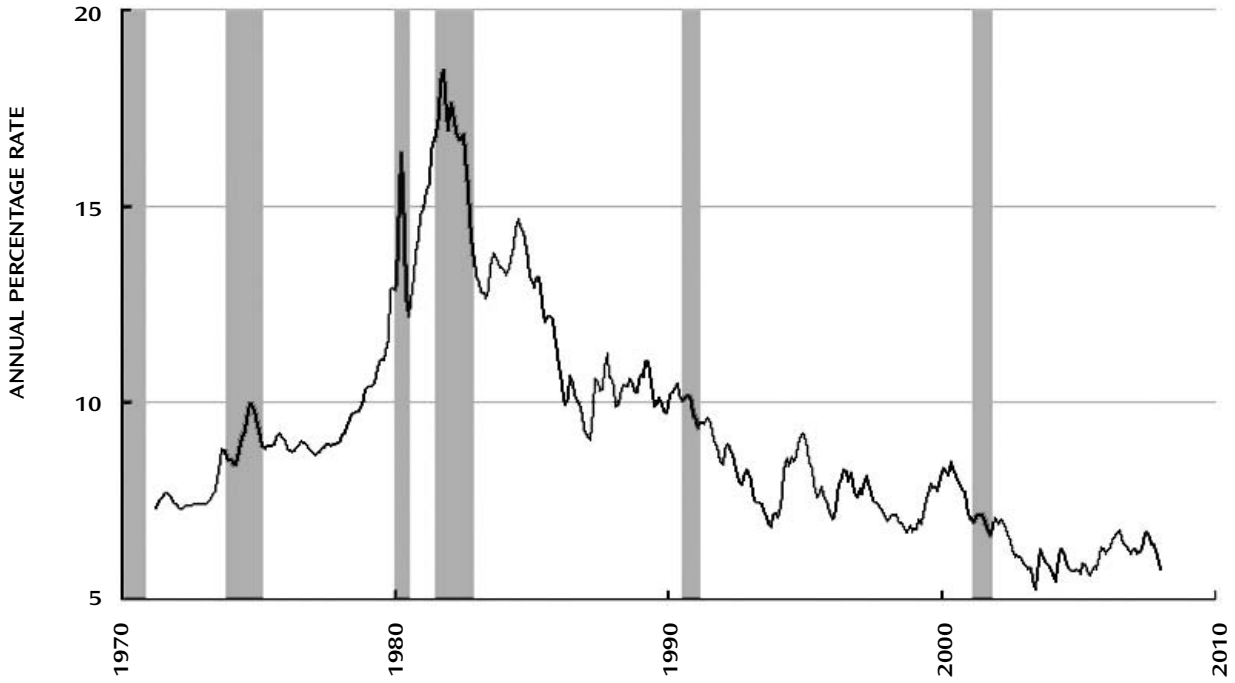


Note: Cross-hatched area represents recession

Source: U.S. Department of Labor

Figure 6

30-Year Conventional Mortgage



Source: Board of Governors, U.S. Federal Reserve, Feb. 29, 2008

MIGRATION TO OR RISE IN URBAN LIVING IN AMERICA

In the larger picture, we should be confident in the return of the U.S. housing markets and the increasing advantage of urban housing demand, a market sector that has experienced the least decline. But our real estate markets in the States are not immune to events occurring across the country or around the globe.

The past four decades saw a migration from America's urban centers to outlying suburbs (Figure 7). Challenging the economic and social fabric of many of America's largest cities, most urban centers suffered population declines, failing to capitalize on the growth in population. But in the 1990s, the quality of life and community in urban centers became highly desirable, reversing the trend in urban centers. Many cities saw a reversal of migration *out* of the cities, and began to capture a greater percentage of growth, primarily in dense, high-rise buildings.

Today, with rising energy costs, home buyers have more incentive to choose urban living. No longer will Americans simply consider how much home can they afford. Now they will be more thoughtful in choosing the *location* of their home, based on the cost of commuting to work.

It is in this environment that we see urban housing and greater density in tall buildings as choices for a better investment arena. This investment, though, must be made with the understanding that there is a greater concern about the availability of energy and food supplies in the face of exploding world populations.

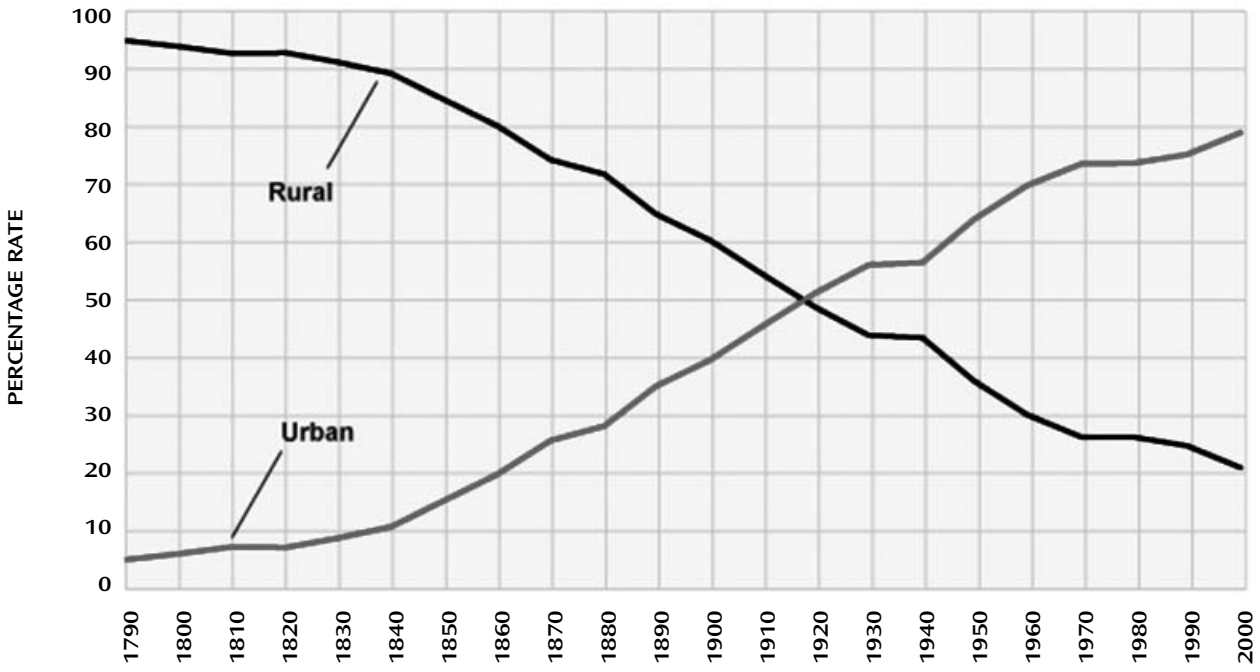
RESPONDING TO THE GLOBAL ENVIRONMENT AND ENERGY COSTS

Our world does not have unlimited energy supplies.

Even before the U.S. housing crisis and steep rise in energy costs occurred, U.S. cities and governments began implementing policy decisions and initiatives to conserve energy, reduce greenhouse gases and improve commercial and residential building practices in an

Figure 7

Change in Rural vs. Urban Living in America



Source: U.S. Census

effort to reduce the impact of development on our global environment.

The impact of global population growth combined with an almost unfettered thirst for a dwindling energy supply makes the uncontrolled development of raw lands unlikely. Neither communities nor developers/investors can afford the infrastructure investment in roads, utilities and schools—assets that already exist in our cities. Finally, the commute work is, on average, more than an hour, and consumes more energy than the buildings that commuters work in.

As our population, employment and housing grows, we foresee that growth and opportunity may be limited not by financial or housing market demand, but by the availability of energy sources. The U.S. marketplace witnesses similar limits to development in our western states like California and Arizona because of a shortage of water sources.

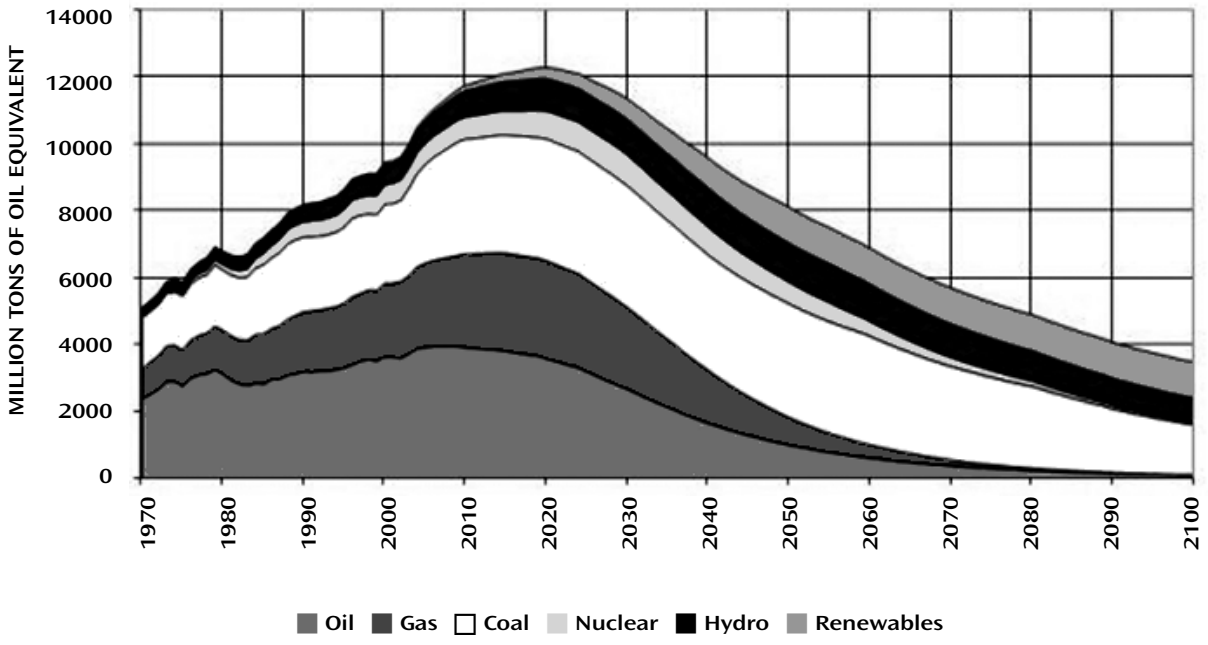
Lack of energy resources, it is clear, is a global crisis (Figure 8). The U.S. has long passed the point where it is able to meet its own energy demands. Despite the efforts of the last century we must wean ourselves of our national addiction to oil, find new sources/technologies, and implement radical energy savings and performance requirements for our built environment and transportation sector.

In the 70s, we experienced an oil embargo that spurred us into action and encouraged conservation efforts. Today you see similar initiatives with the growth of the GREEN BUILDING movement, and the creation of industry standards, new laws and new construction methods and materials—all focused on building and making it green.

As an industry, the real estate community has adopted the initiatives and requirements to be more ecologically sensitive and energy-efficient. We all must work to make it better and to conserve energy. Our challenge is *how*. *How* to define it? *How* to pay for it?

Figure 8

World Energy Supply 1970-2010



Source: U.S. Department of Energy

In the States, the overwhelming vehicle for addressing the impact of building on the environment, and energy use, has been the concept of "green" building. This has led to the establishment, growth and adoption of the standards of the U.S. Green Building Council's Leadership in Energy & Environmental Design, or LEED. This system for designing, constructing, operating and certifying the world's greenest buildings has become the standard for how our industry measures our progress and success in energy savings and reducing our impact on the environment.

LEED is a rating system to plan, construct, operate and recognize:

"...design and construction practices that significantly reduce, or eliminate the negative impact of buildings on the environment and its occupants with regard to site planning; safeguarding water use and water use efficiency; promoting energy efficiency and renewable energy; conserving materials and resources; and promoting indoor environmental quality."

LEED is one among many initiatives springing up across the U.S. and around the world as consensus builds that the environmental impact of human activity has altered natural systems to the point where the future ecological stability of the planet is at stake. Cities, counties, and states have made certification under the LEED system a requirement for new publicly owned, or publicly funded buildings (Figure 9). In some jurisdictions, certifiability is being used as a condition for zoning approval of larger projects. The rush to these standards has seen 20 states and more than 160 other jurisdictions implement LEED as a standard, but in different ways, making it difficult for a national developer or architect to always navigate different markets, however the goals are accepted and the results needed.

The U.S. industry has fully embraced LEED, and its benefits are being seen in all sectors of real estate, including housing. But using LEED as a tool to improve our environment may not be enough.

Figure 9

U.S. Implementation of LEED Requirements

State of Arizona	Public Buildings Silver LEED
State of Arkansas	Public Buildings LEED
Arlington County, VA	Incentive for LEEDs Silver-greater density
Ashville, NC	Public Buildings Gold LEED
Baltimore, MD	Public Buildings LEED
Chicago	Public Buildings LEED
Cincinnati, OH	Property Tax Exemptions for LEED buildings
State of Colorado	Public Buildings LEED
State of Connecticut	State Funded Silver LEED
Denver, CO	Public Buildings Silver LEED
State of Florida	Public Buildings LEED - Platinum
State of Hawaii	Public Buildings Silver LEED
State of Illinois	All Schools LEED
Los Angeles, CA	Public Buildings LEED
Los Angeles, CA	Expedite Private Buildings LEED Siliver Permits
State of Maine	Public Buildings LEED
State of Maryland	Public Buildings LEED
State of Massachusetts	Public Buildings LEED
Miami, FL	Public Buildings Silver LEED
State of Michigan	Public Buildings LEED
State of Minnesota	Goal of 100 LEED Building by 2010

Nashville, TN	Density bonus for LEED Buildings
State of Nevada	Tax Exemption for LEED Buildings up to 35%
State of New Jersey	Public Buildings Silver LEED
State of New Mexico	Public Buildings Silver LEED
State of New Mexico	Tax Exemption for LEED Buildings Silver and above
State of New York	Encourage LEED for Public Buildings
State of New York	Up to $1.5 million for Private LEED Buildings
New York, NY	Public Buildings LEED
State of Ohio	Public Buildings LEED, Schools Silver LEED
State of Oregon	Businees Tax Credit for LEEDs (Various Levels)
State of Pennsylvania	Encourage LEED for Public Buildings
State of Pennsylvania	$20 million grant funds for projects
Philadelphia, PA	Public Buildings Silver LEED
Portland, OR	Public Buildings Gold LEED
State of Rhode Island	Public Buildings Silver LEED
San Diego, CA	Expedite Private Buildings LEED Siliver Permits
San Francisco, CA	Expedite Private Buildings LEED Gold Permits
San Francisco, CA	Public Buildings Silver LEED
Seattle, WA	Density bonus for LEED Silver Buildings
State of South Carolina	Public Buildings Silver LEED
Tamp, FL	Density bonus for LEED Buildings
Washington, DC	ALL Buildings and Improved Space Silver LEED with Bond

Source: U.S. Green Building Council

For example, most developers are implementing LEED standards on new office buildings that are designed to new modern codes such as ASHRAE90.1-2004, which achieve almost a 35 percent improvement in energy performance. But, this savings fails to address the fact that most office workers who work in the new LEED-certified building consume nearly 30 percent more energy in their daily commute than the new building itself consumes. This suggests that although LEED benefits in individual buildings are being achieved, the larger issue of the environmental impact of automobile emissions and energy use by commuters is not being addressed (Figure 10). This demands a broader view with increased public/development policy on development patterns, public transit and regional air quality—all which may, in the future, impact development rights, decisions and investment.

FUTURE FRAMEWORK FOR HOUSING INVESTMENT IN THE U.S.: NEED FOR A GLOBAL PERSPECTIVE

Traditionally, our industry has taken a very narrow perspective as it looked at investment in housing. Market factors such as job growth, housing absorption and housing demand valuation have defined the pricing of housing and investment/lending decisions.

Today the environment is much more complex. Global investment in U.S. housing markets, changing housing

Figure 10

Comparison: Transportation vs. Energy Use for an Office Building

	U.S. Units	Metric Units
Average U.S. commute distance – one way (1)	12.2 mi	19.6 km
U.S. average vehicle fuel economy – 2006 (2)	21.0 mi/gal	8.9 km/liter
Work days	235 days/yr	
Annual fuel consumption	273 gal/year	1033 liters/year
Annual fuel consumption per automobile commuter (3)	33,900 kBtu/yr	9,890 kWh/yr
Transportation energy use per employee (4)	27,700 kBtu/yr	8,100 kWh/yr
Average office building occupancy (5)	230 ft^2/person	21.3 m2/person
Transportation energy use for average office building	121 kBtu/ft^2	381.2 kWh/m^2
Operating energy use for average office building (6)	92.9 kBtu/ft^2-yr	292.7 kWh/m^2-yr
Operating energy use for code-compliant office building (6, 7)	51.0 kBtu/ft^2-yr	160.7 kWh/m^2-yr
Percent transportation energy use exceeds operation energy use for an average office building	30.2%	
Percent transportation energy use exceeds operation energy use for an office building built to ASHRAE 90.1-2004 code	137%	

Sources:

1. U.S. Department of Transportation, Transportation Energy Data Book 26th Edition, 2007, Table 8.6.

2. U.S. EPA Light-Duty Automotive Technology and Fuel Economy Trends: 1975 Through 2006 .

3. Assumes 124,000 Btu/gallon of gasoline, DOE Energy Information Administration data .

4. Assumes 76.3% commute in single-occupancy vehicle, 11.2% carpool (2 per car) and no other energy use (commuting transportation modes from U.S. DOT Transportation Energy Data Book 26th Edition, 2007, Table 8.14.

5. U.S. General Services Administration.

6.This includes site energy only, not source energy. U.S. DOE Energy Information Administration Commercial Building Energy Consumption Survey (CBECS) data for 2003, published June 2006.

7. Bruce Hunn, ASHRAE, personal communication. Source: Environmental Building News, September 2007.

demographics that favor dense urban living, rising energy costs and declining supplies, even the cost and availability of food, are all issues now at the forefront of housing investment decisions. Global, national and local governments are setting new requirements and policies that will affect the location and financing vehicles/requirements for housing. As developers and investors, we must actively participate with governments and policymakers to support the "smart development" that increasingly reflect:

- growth in populations will continue to create significant demand for all forms of real estate, especially in housing;
- significant and real energy savings must be achieved if this growth can be sustained;
- radical and major energy changes and a reduction of population growth rates must achieved if we want to achieve sustainability;
- urban living choices are one of the few development options that can achieve major energy reduction. ■

ENDNOTES

1. Lang, Robert E. and Dhavale, Dawn. "Beyond Megalopolis: Exploring America's New 'Megapolitan' Geography." Metropolitan Institute Census Report Series. Census Report July 2005.

FOCUS ON REAL ESTATE

Caution! Not All House Prices Have Declined

BY PAUL G. JOHNSON, CRE, MAI

A DAY DOES NOT GO BY WHEN THE NATIONAL and international press do not report with great authority that house prices, typically a median, have declined significantly—across the board, for all markets, for all price ranges, worldwide. Wall Street blames most of its woes on the "subprime" problem, alleging that [delinquent] mortgages are now higher than the declining house values. This is misleading. The reality is that today's databases include an extraordinary number of distressed (subprime) transactions, which distorts the true price behavior, especially as compared with historically healthier property markets—or at least, healthier property owners.

My Uncle Joe, a past national president of the former United States Savings & Loan League and an advisor to presidents, had a simple underwriting mantra, "Paul, the only time a loan goes bad is when the borrower can't make the payments." If only Wall Street had listened to Uncle Joe!

The problem with these headlines, as is often the case, lies in the databases from which these dire circumstances are calculated. Most databases are based upon county assessor or county recorder public records (assuming disclosure) which, best case, include all recorded transactions regardless of validity. Usually, every foreclosure, every short sale, every quit claim deed, every bailout, every payoff, etc., is included in the unfiltered, unexamined, global databases relied upon by the media and their sources. Let's call this Dirty Data.

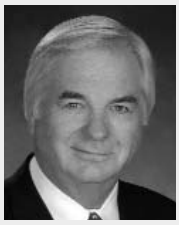
Real estate professionals recognize that the legal definition of Market Value assumes, among other things, that sellers are "willing." Clearly, many of the transactions in these Dirty Databases did not include willing sellers, and said transactions should not be included in any analysis addressing "Value." Thus, when microscopically examining the market, it would be appropriate to recognize that the national and local media are dealing with Dirty Data when comparing median prices over time.

Regardless of Dirty Data for the moment, by definition there are as many sales above the median as below. So, when contemporary databases with distressed transactions are processed by various software programs, the resultant median includes the Dirty Data—much more than might be found in the same databases two or more years ago.

The practical problem is that it is impossible or, at a minimum, too costly to filter all the data in order to exclude the distressed and non-market transactions which distort historic median comparisons.

This is not to suggest that there is not a serious problem on Wall Street. There is. Securitization, new products and

About the Author

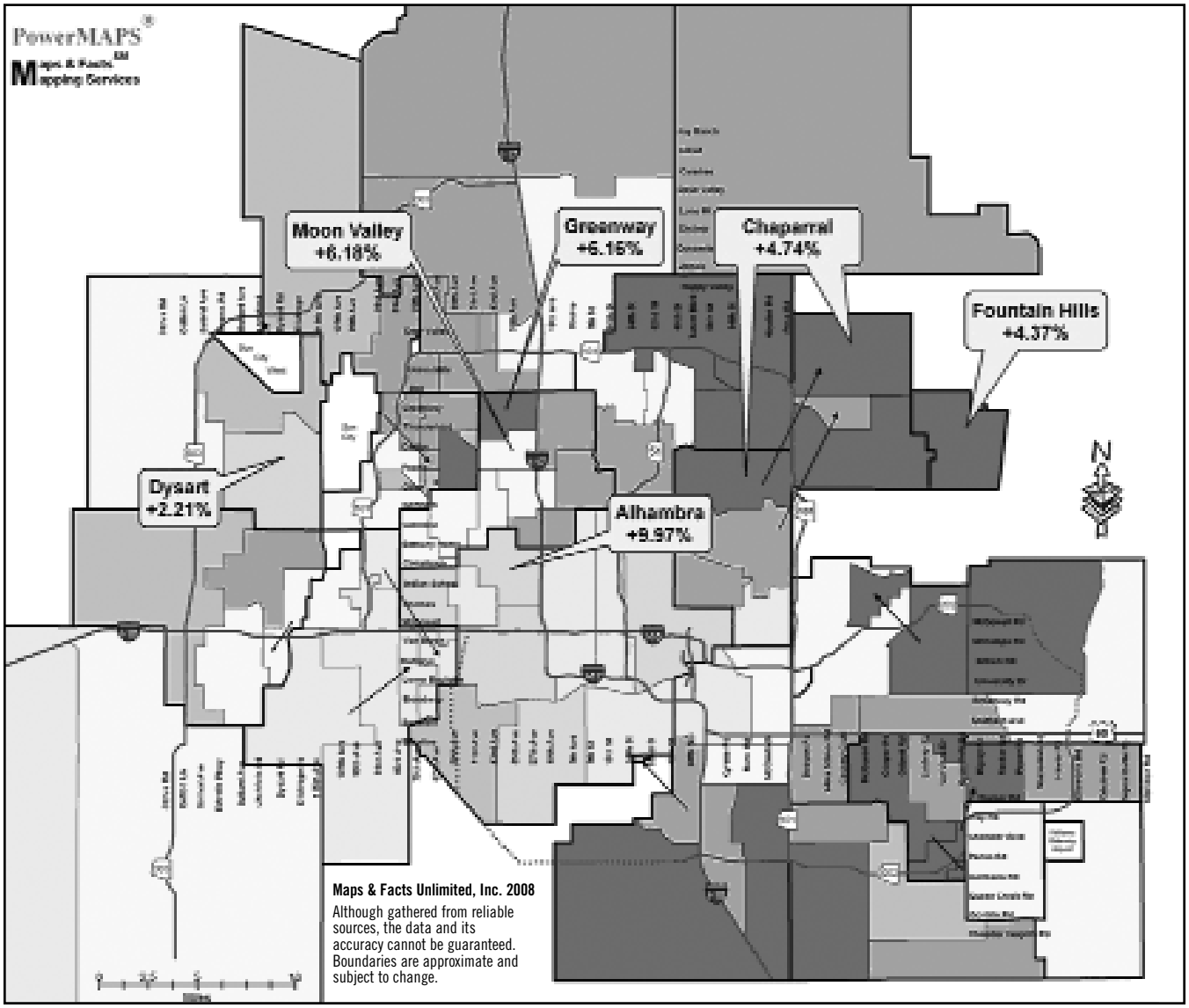


Paul G. Johnson, **CRE**, MAI, *is president of The Paul G. Johnson Company, Inc., Phoenix. Currently, he specializes in construction defect litigation. Johnson has served as an expert witness on topics including groundwater contamination, expansive and unstable soil, commercial, residential and mixed-use, airport noise, landfills, and condemnation. Johnson's articles have been published in* Real Estate Today, Forum, *and* Real Estate Educators Association Journal. *He earned a bachelor's degree in economics from Lafayette College in Easton, Pennsylvania.*

relaxed regulations have enabled the unsound lending and underwriting practices which have led to our current crisis. However, at the Main Street level, not all property values have declined. If the distressed, non-market transactions were excluded from the databases relied upon by the national press and/or their sources, the comparative results would be far different and less frightening. Believe it or not, absent distress, some sub-markets may have appreciated.

Maps & Facts Unlimited, Inc., in Phoenix, Arizona, has been tracking residential appreciation rates based upon paired (not median) sales since the early 1990s. Paired sales compare sales and resales of the same property expressed as an annual change rate or percentage.

In December 2007, Maps & Facts examined paired sales in six geographically diverse high school districts in Metropolitan Phoenix to study their respective paired appreciation rates from January 2005 through November 2007. These districts were selected geographically based upon their size and the number of paired sales during this comparatively narrow time period. Initially, the raw Dirty Data mimicked the national press reports that prices had declined significantly. However, on closer examination, it was apparent that a significant percentage of the "sales" (perhaps 25 percent) were not sales but represented distressed (subprime), non-market transactions and outliers.



The map shows that after excluding the Dirty Data, from January 2005 through November 2007, prices actually increased.

In conclusion, absent a distressed seller or lender, housing prices have not only held steady since early 2005, but may have experienced the historical normal appreciation rate of three to six percent per year.

While the data is Metro Phoenix-centric, given Metropolitan Phoenix's size, record new construction, resales, and population growth statistics, Phoenix is easily an excellent proxy for the U.S., if not international markets with similar subprime lending practices. ■

FOCUS ON REAL ESTATE

Agricultural Land

BY PETER HOLLAND, CRE; MAURA COCHRAN, CRE; JAMES B. MCCANDLESS

IN THE PAGES OF *REAL ESTATE ISSUES*, WE HAVE EXPLORED many aspects of land use and development including entitlement, valuation, zoning, environmental remediation, urban renewal and urban sprawl. We have examined wide-ranging physical improvements including office, industrial, hospitality, housing, and public sector developments. As described by the Urban Land Institute byline, "Under all is the land," indeed, as Counselors of Real Estate, land is fundamental to the work we undertake on behalf of our clients. This article looks at land in perhaps its most basic and fundamental purpose—that of agriculture. The authors summarize *why* this market segment has become an important asset class for investors and *what* are the historical and future valuation and demand trends. We reference and extracted from a United States Department of Agriculture, Economic Research Service forecast for 2008. This thorough report provides in-depth research on the topic of agricultural commodity and agricultural land prices and trends. The full report may be obtained at *www.ers.usda.gov/briefing/FarmIncome/NationalEstimates*.

GLOBALIZATION

The Economist's food-price index is higher today than at any time since it was first established in 1845. The magazine's view is that "agflation" is supported by important longer-term trends that will continue to influence the market for at least the next seven to 10 years. And it argues that historically high commodity prices are occurring during a time of abundance. The surging economies in China and India are overpowering the normal economic consequences of strong supply. At the same time, for example, the United States, long the largest

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Peter Holland, CRE, *is a principal with the Hartford, Connecticut-based real estate advisory firm of Bartram & Cochran. Previously, he served as COO and CFO of CoreNet Global, where he formed part of the thought leadership of the profession and had day-to-day responsibility for the strategic direction, finances and operations of the organization. Holland has more than 25 years of consulting Fortune 100 and not-for-profit experience in the field of real estate.*

Maura Cochran, **CRE**, SIOR, *joined Bartram & Cochran in 1987 and has worked in the commercial real estate industry for more than thirty years. She practices both national and local consulting and project implementation, including due diligence analysis, adaptive reuse studies, marketing plans and corporate relocation assignments. Her active involvement with the Counselors of Real Estate (CRE) and the Society of Industrial and Office Realtors (SIOR) gives her excellent access to market information nationwide. She currently serves as the Editor in Chief of Real Estate Issues and the Board of CRE.*

James B. McCandless, *president of UBS AgriVest LLC, a subsidiary of UBS Realty Investors LLC, Hartford, Connecticut, specializes in agricultural real estate investment management. McCandless' more than 30 years of experience in financing and investing in agricultural real estate includes positions with Bank of America, Connecticut Mutual Life Insurance Company and Bell Investment Company. McCandless earned a bachelor's degree in Animal Science and Business Administration from Oklahoma State University. He is a member of the American Society of Farm Managers and Rural Appraisers, the Pension Real Estate Association and the National Council of Real Estate Investment Fiduciaries.*

exporter of corn, now consumes more corn domestically for ethanol than it sells abroad.

Everywhere, the cost of food is rising sharply. Whether the world is in for a long period of continued increases has become one of the most urgent issues in economics.[1] Global stores of grain have fallen to their lowest levels in decades, and there are compounding factors contributing to sharply higher price levels.

Increased consumer wealth in rapidly developing countries and the attendant nature of food consumption in these rapidly expanding economies are powerful drivers of the new economic reality. In recent years, developing countries have evidenced annual economic growth rates in the range of seven percent, a strong rate by any standard. Growth rates at this level mean that hundreds of millions of people are gaining access to more than just the basic necessities and subsistence levels of nutrition. This new wealth allows for not only the ability to acquire cell phones, medicines and bottled water, but also more abundant and nutritious food.

In addition, some governments such as in Russia and Venezuela have imposed price controls in an attempt to manage this politically sensitive upward spiral in food prices. Others are implementing export restrictions. These attempts to manipulate commodity markets have led only to higher price levels as local farmers respond by curtailing production of price-constrained crops. Farmers from around the world are producing at full capacity and expanding their tillable soil with sometimes detrimental environmental consequences.

In 2007, net farm income was at record levels, and the year ended with key economic indicators at favorable levels. Exports were strong as the weak dollar made U.S. commodities more competitive in international markets, and ending-year stocks of many commodities were low. Consequently, the outlook for the farm economy as a whole is for a very good year in 2008, driven by strong demand for feed crops, oilseeds and food grains.

UNITED STATES PERSPECTIVE

Exports from the U.S. are expected to increase by 23 percent this year to a record $101 billion, resulting in further consolidation of America's status as the world's largest agricultural exporter. [2] This increase in export value is even more remarkable in that net farm income in 2007 was $87 billion, or 50 percent more than the average income over the past 10 years. In addition to increasing global consumption, agricultural commodity prices (and agricultural land values) in the U.S. are influenced by:

- weakening dollar;
- federal mandates and incentives that encourage the production of ethanol;
- U.S. price support and farm subsidy legislation.

Farm income creates the economic support to establish and drive agricultural land valuations. It is important to note, however, that agricultural pricing trends and valuations are neither uniform nor consistent across all crop groups. While overall trends indicate further potential for price appreciation, this is not uniformly the case across all crops. There are also variations among varieties within any particular crop. This is especially true with permanent crops such as apples or nut-bearing trees that typically require years to mature. Consumer tastes, for example, have reduced demand for red delicious apples over other more newly popular varieties.

Current trends, of course, are subject to a variety of threats including energy prices (utilities, fuel and fertilizers), the quality and availability of water for irrigation, crop diseases and pests, climate change, uncertain price support and energy legislation, exchange rates and changing consumer tastes. For example, a dollar that continues to fall, while beneficial to exports, also increases the costs of imported units of production such as fuel and fertilizers.

COMMODITY PRICES BOOST FARM INCOME

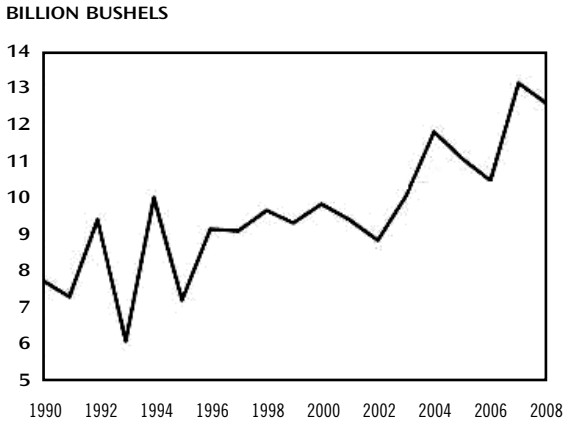
In general, 2008 is projected to be another exceptional year for U.S. crop producers, particularly for feed crops, oil seeds and food grains. In the livestock sector, the prices available to producers for cattle and milk are expected to remain well above their average over the last 10 years. Again, these higher prices are the result of strong demand from the domestic biofuels industry and foreign buyers. As a result, farmers have lots of production to sell at high prices.

The growing use of major crops such as corn in the production of biofuels has increased the demand for these commodities and contributed to overall upward

pressure on commodity prices. While corn producers are the primary beneficiaries, soybeans are also used for producing biodiesel. Prices of other feed crops and oil seeds also have risen as corn and soybean consumers have looked to substitute commodities to offset the effects of rising corn and soybean costs. Reduced yields resulting from inadequate rainfall in other countries and increased international consumption (from growth in population and rising incomes) have reduced world supplies and inventories for corn and soybeans.

Figure 1

U.S. Corn Production 1990-2008



Source: National Agricultural Statistics Service (NASS)

AGRICULTURAL LAND AS AN INVESTMENT

As indicated, there are significant risks to sustained high land valuations. The value of agricultural land can be adversely influenced by changes in farm legislation, energy prices, the availability and quality of water, disease and pests, quality and availability of labor and suitable tenants, export restrictions on genetically modified crops, the cost of infrastructure, weather, exchange rates and market demand for certain crops.

These risks, while numerous, are mitigated by the fact that, overall, land has steadily increased in value over the past 20 years. The rate of increase, however, has accelerated significantly since 2004, averaging 16.6 percent per year compared to an average of 4.84 percent per year during the previous 15 years. The drivers of increasing land valuations, in our view, are long-term and structural. In addition, as politicians scramble to get reelected, no major changes in federal policy are likely, and so long as our trade imbalance, interest rates and slow economy persist, so too will the weak dollar. However, the availability and cost of good water for irrigation remains a concern in certain areas (the west and southeast). Properties in other regions with access to an abundant supply—such as exists in the Mississippi Delta—will, by comparison, be highly advantaged.

We expect that investment-grade land, or land with good soils, high productivity, adequate water, and of a desirable size and topography for mechanization and economies of scale outside of areas influenced by urban growth, will outperform the market for more marginal agricultural land.

INSTITUTIONAL FARMLAND INVESTMENT

Farmland can be found in all 50 states; however, there are 24 states that are considered to have high percentages of investment-grade land. The combined value of all farmland in those states is approximately $1 trillion. While not all of this land is "for sale," this still represents a sizeable investment universe and allows sufficient geographic and crop type diversification for institutional investors. Pension funds, which began their farmland investment activity in the early 1990s, own only about $1 billion of farmland. Some institutions have recently expressed interest in farmland investments, yet they remain a small factor in the market. Historically, the largest single group of farmland buyers has been, and is today, farmers increasing their land holdings.

AGRICULTURAL LAND VALUE HIGHLIGHTS

Farm real estate values, a measurement of the value of all land and improvements on agricultural properties, averaged $2,160 per acre on Jan. 1, 2007, up 14 percent from 2006. The $2,160-per-acre figure is a record high, and is $260 higher than the previous year. In our experience, most improvements, with some exceptions, do not significantly contribute to the value of a typically sized farm in most regions.

Both cropland and pastureland values for 2007 are at record highs. Cropland values rose 13 percent to $2,700 per acre, up from the previous high of $2,390 in 2006. Pasture values rose 16 percent to $1,160 per acre.

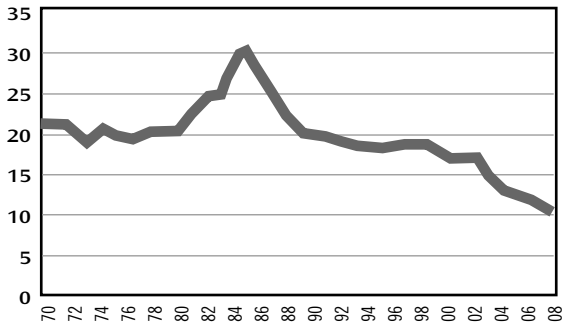
The increase in farm real estate values continues to be driven by farm income, which indicates demand by

farmers expanding their land holdings. Though we have also observed that until 2007, commercial and residential development of farmland produced a surge in 1031 tax-free exchange buyers seeking farms to replace that land sold to developers. Livestock production and recreational use remain the predominant drivers that influence pastureland values.

Gains in farmland prices have not been accompanied or fueled by excessive debt financing as occurred in the late 1970s and early 1980s. In fact, as Figure 2 demonstrates, the debt/equity ratio of the farm sector has declined steadily since the mid-1980s.

Figure 2

Farm Debt/Equity Ratio



Source: UBS Global Asset Management, Global Real Estate Research based on data obtained from USDA as of December 31, 2007. Ratio represents total farm debt divided by equity in land, buildings, equipment, crops and livestock. 2007 ratio is preliminary and 2008 ratio is forecast by the USDA.

Regional increases in the average value of farm real estate ranged from nine percent in the southeast to 18 percent in the Mountain Region. The highest farm real estate values remained in the northeast, where development pressure continued to push the average value to $5,000 per acre. The Northern Plains had the lowest farm real estate value, at $961 per acre, up 14 percent from the previous year.

The Lake Region had the highest percentage increase in cropland values, up 15.7 percent from 2006. In the Corn Belt, cropland values rose 15 percent to $3,720 per acre. Values in the Southern Plains increased 15 percent from the previous year, up to $1,330 per acre.

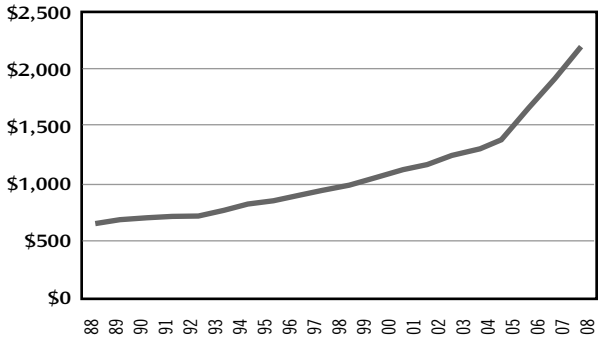
The Pacific Region had the highest average percentage increase in pasture value, 29 percent above 2006. In the Southern Plains and Mountain regions, which account for more than half of the pasture in the U.S., values per acre increased 25 percent and 18 percent, respectively.[3]

As demonstrated in the following chart (Figure 3), farmland prices have increased annually since 1988.

Figure 3

U.S. Average Farm Real Estate Value

DOLLARS PER ACRE 1988-2007



Source: USDA

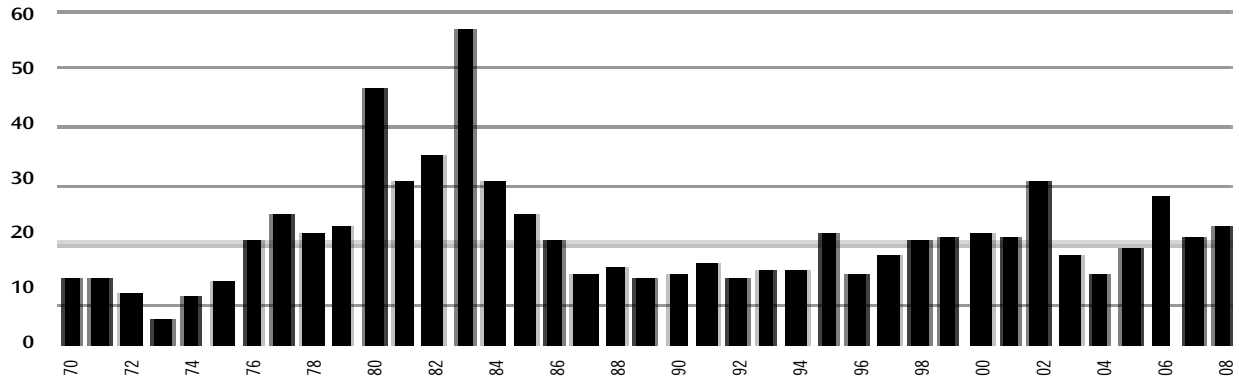
As depicted in Figure 4, the debt/equity ratio reveals that farmland values in the late 1970s and early 1980s were not justified by the income generated from farming. However, the current farmland price/earnings ratio is in line with the historic averages, and farmland gains over the past 20 years have been supported by farm income.

Always bear in mind that broad-based data, while interesting, may not be relevant to specific properties in any given portfolio. Different crops are subject to different consumer, crop maturation and economic cycles. Other site-specific issues such as water rights, topography, growth patterns, easements and restrictions, soil type, etc., also determine value within a general agricultural region.

Local property and agricultural experts we interviewed noted that farm values are increasing faster than most appraisers, brokers and farmers themselves had anticipated. Many said that although they had declared market peaks one or two years ago, and though they are pleased about present valuation levels, they are cautious, if not

Figure 4

Price/Earnings Ratio



Source: UBS Global Asset Management, Global Real Estate Research based on data obtained from USDA as of December 31, 2007. Ratio represents land and building value divided by net farm income. 2007 ratio is preliminary and 2008 ratio is forecast by the USDA.

nervous. Others we interviewed expect values to plateau or rise modestly in the future, while some knowledgeable people in the Mississippi Delta market remain bullish, expecting to see as much as 50 percent appreciation over the next five years.

Agricultural land and related properties such as timber-producing properties will likely continue to attract increasing investor interest. Whereas local demand and 1031 exchanges had driven many agricultural transactions in the past, we believe that investment and pension funds acquiring land as a component of their overall investment portfolio will accelerate. As such, knowledge of this real estate asset class will become increasingly important to real estate professionals. ■

ENDNOTES

1. *The New York Times,* March 9, 2008
2. *The Economist*, Dec. 8-14, 2007 – "Briefing Food Prices"
3. USDA Land Values and Cash Rents 2007 Summary

The U.S. Senior Housing Opportunity: Investment Strategies

BY DAVID LYNN, Ph.D. AND TIM WANG, Ph.D.

With favorable demographic fundamentals and the achievement of higher yields relative to conventional apartments, we believe that the senior housing sector is emerging as an increasingly attractive investment opportunity. The senior population, defined as persons age 65 and older, is growing at twice the national average, with many baby boomers entering retirement. Consequently, the senior housing market is expected to transition from a niche market to a major specialized market, with the long-term outlook for this property sector becoming increasingly positive. Facilitated by a restrained supply pipeline over the past six years, occupancy levels for senior housing assets rebounded from lows recorded in 2001-2002 to near 90 percent today in many metro areas. Operating business models are better-defined, contributing to strong revenue growth and higher profit margins. Annual rent growth in the sector remains a healthy four to five percent. In response to improved operations and increased investor interest, asset prices are increasing to record levels while cap rates are falling to single digits, ranging from seven to nine percent. The cap rate spread between senior housing and conventional apartments has declined from 300 basis points (bps) to 150-175 bps. Since the senior housing market is driven by surging senior population and not directly related to external economic factors such as economic growth and the unemployment rate, the addition of senior housing assets to a portfolio could increase diversification and lower market risk. Different investment strategies are outlined and discussed.

BACKGROUND

A relatively young industry, senior housing development took flight in the early 1980s when developers and investors recognized the potential to benefit from the anticipated surge of the elderly population in the United States. Numerous small, mom-and-pop and not-for-profit operators dominated the industry during its nascency.

The industry expanded significantly in the late 1980s when a U.S. Department of Housing and Urban Development (HUD) program was implemented, with the senior housing sector in mind, to insure lenders against losses on mortgage defaults. As a result, private capital began to flow into the sector.[1]

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The mid-1990s witnessed the rapid growth of Real Estate Investment Trusts (REITs) and the emergence of the private commercial mortgage-backed securities (CMBS) market. The securitization of loans collateralized by senior apartments and skilled nursing homes increased steadily during the late 1990s.

Because of excess capital available from the public markets, the senior housing sector, especially the assisted living segment, was overbuilt during the late 1990s. The market outpaced itself as developers built properties at a rate that well exceeded demand, resulting in over-supply.[2] Compounding the problem was the fact that product designs did not meet the needs of target markets. Consequently, average occupancy rates declined, and many projects failed to meet investment expectations.

Depressed stock prices from 1999 to 2000 limited the supply of new equity financing, but offered attractive valuations for acquisition targets, prompting a surge of mergers and acquisitions (M&A) among senior housing REITs. At the same time, several healthcare REITs shifted from growth strategies to liquidation strategies in order to address debt problems. Finally, accounting scandals, operational issues, higher interest rates and excessive debt caused the industry to restructure and consolidate.[3]

Today, industry business models have become more defined. Occupancy and operating margins are improving to near six-year highs and the industry is reporting healthy year-over-year revenue and NOI growth. As a result, institutional investors are increasing their acquisitions in the sector, the result of which is helping to drive cap rates to new lows. Although a variety of reimbursement and operational issues remain, both the near- and long-term outlooks for the senior housing sector are increasingly positive.

DEFINING SENIOR HOUSING

The senior housing sector is generally composed of five segment types, defined by the level of care and amenities provided in conjunction with the living setting.[4] The industry has developed well-defined business models for each segment.

Active Adult Communities and Senior Apartments (for-sale and for-rent): Active adult communities are typically condos, co-ops or single-family homes with minimal or no services offered. These communities have an age requirement of 55-plus and offer a number of amenities, such as clubhouses, which appeal to active adult homeowners. Senior apartments tend to be larger, multi-unit facilities with a rental payment structure. In addition to age restrictions, many communities have income restrictions because they are developed under low-income housing tax credit programs.

Independent Living Facilities (ILFs): Also known as congregate care facilities, ILFs offer a multi-family design to those seniors who are less active and who may have difficulty with routine housekeeping. These facilities are similar to senior apartments, but offer several additional services, such as meals, housekeeping, transportation and organized group activities. Residents typically rent apartments at ILFs at a premium to local market rents in order to cover the cost of common area charges and the additional services provided.

Assisted Living Facilities (ALFs): ALFs are multi-family properties with personalized support services for seniors. Typically, ALFs cater to individuals who need assistance with daily activities, but do not require nursing home care. The units and common areas are designed to accommodate a higher level of support, while still retaining the characteristics of residential apartments. ALFs are a cost-efficient alternative to in-home care because they primarily provide non-medically intensive support activities. A property that specializes in the care of residents with Alzheimer's or other forms of dementia is also considered an assisted living property. These memory care facilities can be freestanding properties or wings or floors within a traditional assisted living property.

Skilled Nursing Facilities (SNFs): SNFs provide the highest level of care, are hospital-like in nature and are, consequently, the most expensive of all senior housing options. In addition, SNFs are also the most highly regulated of the senior housing facilities, typically requiring state licenses. Many SNFs offer acute and intensive medical care, and post-hospitalization and rehabilitation therapies. Medicare and Medicaid programs cover a large portion of these expenses, with such government reimbursements accounting for a significant portion of revenue at these facilities.

Continuing Care Retirement Communities (CCRCs): CCRCs combine attractive residential living with high levels of service designed to address the comfort, health,

wellness, security and developing needs of aging seniors. Essentially a "one-stop shop," CCRCs offer comprehensive, continuing-care services at one location, by providing skilled nursing facilities mixed with large numbers of independent living and assisted living units. Residents may also receive medical care on-site, the costs of which are all reimbursable by Medicare and Medicaid programs. In addition to a monthly fee, there is typically a large, one-time entry fee to enter a CCRC. CCRCs, many of which are not-for-profit and are religiously-affiliated, are the smallest segment within the senior housing market because they are costly to build, and due to the complex local regulatory approval process, time-intensive to develop.

Real Estate vs. Service: Whether senior housing constitutes a real estate investment or a service industry investment is determined by the specific type of facility. The services provided by most senior housing facilities include hospitality, healthcare, education and recreation. Clearly, active adult communities provide residences, which represent real estate investments. Conversely, skilled nursing facilities provide support services, and logically should be considered primarily a service business investment. The remaining types of facilities provide a mix of both services and housing. Independent living facilities provide meal and linen services but, for the most part, are primarily considered a real estate investment. The more support-intensive segments, such as assisted living, should logically be considered a form of healthcare real estate—a combination of an operating business and a real estate investment. Finally, CCRCs

Figure 1

Targeted Senior Groups

Medical Acuity Level	Continuum of Elderly Care	Independence Level
75%	Skilled Nursing Facility (SN)	25%
40%	Assisted Living Units (AL)	60%
25%	Congregate Living Units (CL)	75%
10%	Independent Living Units (IL)	90%
0%	Community Living Options/	100%
	Active Adult (AA)	

Sources: ING Clarion Research & Strategy, National Investment Center

Figure 2

Product Offerings Among Segments

	ACTIVE ADULT	INDEPENDENT LIVING	ASSISTED LIVING	SKILLED NURSING
Target Age Group	55-65	65-75	75+	As needed
Service Level	No	Medium	High	High
Care Level	No	No	Medium	High
Structure	Condo	Rental	Rental	Rental
	Rental (limited)	Condo (limited)		
Real Estate Product	Single family Multifamily	Multifamily	Multifamily	Multifamily
Recreational Amenities	Clubhouse	Typically on 1st floor	Typically on 1st floor	Typically on 1st floor

Sources: American Seniors Housing Association, ING Clarion Research & Strategy

blend substantial care services with residential services.

The above five senior housing segments target different subgroups within the elderly population by providing different levels of housing needs and services. Monthly fees for senior housing increase as the required level of service increases. Historically, the service business has generated higher yields than residential real estate and, not surprisingly, the more service-intensive categories, such as assisted living and skilled nursing, generate higher yields than the less service-intensive active adult communities and independent living categories. The perceived investment risk for the individual categories appears to rise as the service business component increases.[4]

TARGETED SENIOR GROUPS

There are mainly three large, distinct groups that comprise the senior population:

Baby Boomers (age 44-62): The baby boomers are the largest generation in U.S. history, constituting a sizable demographic wave. With 82.8 million people born between 1946 and 1964, the baby boomers represented about 30 percent of the U.S. population in 2007[5], with estimated annual spending of $2 trillion.

Baby boomers tend to seek maintenance-free living, easy lifestyles, more leisure time, new experiences, and prefer multiple options, customization and control. As they enter their peak earning years, baby boomers' lifestyle preferences and spending patterns should be closely monitored. By 2011 the first wave of baby boomers will turn 65 years old.

Silent Generation (age 63-83): Nearly 50 million Americans were born into the Silent Generation between 1925 and 1945. Members of this cohort experienced the Great Depression in the 1930s and were raised prior to the fast-paced growth of the 1950s. Most of this generation is now retired.

GI Generation (age 80-plus): The members of the GI Generation are the World War II-era seniors. In general, this group is fiscally conscious and conservative. Because of their age, members of the GI Generation tend to need considerable medical support and personalized care. Different products target different age groups with different needs.

DEMAND FACTORS

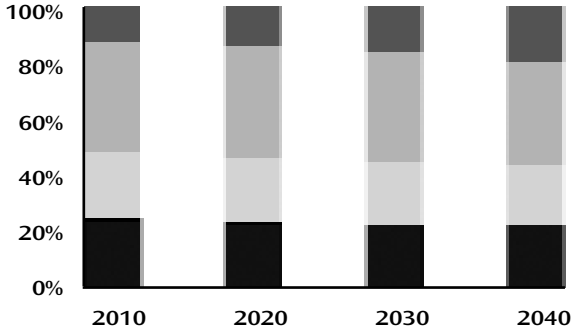
There are several factors contributing to increased demand for senior housing including: demographic trends, geographic distribution, lifestyle preferences and needs, market penetration and affordability.

Demographic Trends: The share of the population age 65 and older has been steadily increasing since 2000, with more than a half million people joining that cohort each year. The U.S. Census Bureau projects that the senior population will account for approximately 20 percent of the U.S. population by 2030, up from less than 13 percent today. It is projected that within five years, the population of persons age 65 and older will increase from 16 million today to about 40 million.[6] Thereafter, the senior population will be the only major age cohort to gain share in the overall U.S. population. By 2010, the senior housing market is expected to transition from a niche market into a major specialized market.

Demographic trends underscore the growing demand for senior housing. In the short-term (2005-2010), demographic trends are expected to support strong demand growth in two groups: the population aged 55-64

Figure 3

Seniors Are Gaining Market Share



and the population age 85 and older. The population growth rate for the U.S. is expected to be slightly less than one percent per year over the next 10 years. Notably, the population age 85 and older is projected to grow at approximately three times the national rate through 2010.[7]

Figure 4

Compound Annual Growth Rate

	Short-term 2005-2010	Intermediate-term 2010-2015	Long-term 2015-2020
Population 55-64		2.40%	1.70%
Population 65-74	2.80%		
Population 75-84	-0.30%	0.70%	2.00%
Population 85+		2.00%	1.60%

Source: U.S. Census Bureau, ING Clarion Research & Strategy

In the mid-term (2010-2015) and long-term (2015-2020), the population aged 65-74 is expected to realize the strongest growth, averaging more than four percent growth annually.[8] This rapid acceleration is expected to commence in 2010, as the baby boomers begin to reach their mid-70s, prompting yet another surge in senior housing demand. The population age 85 and older is expected to grow at a steady level over the projection period, a result largely attributable to advances in medical care and increasing longevity.

Geographic Distribution: The largest concentration of senior population growth is in the nation's southern and western states. Indeed, Florida, Texas, Virginia, Maryland, North Carolina, South Carolina, and Tennessee are projected to account for about 40 percent of population increase in persons age 65 and older in this decade, with California, Arizona, Washington, Nevada, and Colorado expected to account for another 26 percent of the same.[9]

Lifestyle Preferences and Needs: Demographics play just one role in this complex market as demand from seniors also depends on the nature of their housing preferences. As people age, their need for assistance in daily living activities such as eating, dressing, standing, sitting, walking and taking medications properly will inevitably increase. However, today's seniors are comparatively healthier, and tend to live longer than previous generations.[10] Not surprisingly, many seniors prefer to remain in their own homes for as long as possible, with the majority preferring to own rather than rent. Therefore, the homeownership payment structure and residential qualities of senior housing facilities are becoming increasingly popular.

Growing numbers of seniors are occupying senior-specific residential real estate, suggesting increased acceptance of the senior housing lifestyle. The penetration rate, or percentage of senior households choosing to move to senior housing, has recently been increasing at a rate of approximately four percent per year. The overall compound growth rate of this trend over the past 10 years has been approximately six percent per year.

Age Restriction: Specific age restriction is a gray area in such an age-restricted community. In 1995, Congress passed the Housing for Older Persons Act (HOPA) defining the criteria for an age-restricted community:[11]

- It is intended and operated for occupancy by persons 55 years or older.
- At least 80 percent of the units are occupied by at least one person who is 55 years or older. Or 100 percent of units are occupied by persons 62 years or older.
- It complies with and enforces the age restriction through written policy and age verification.

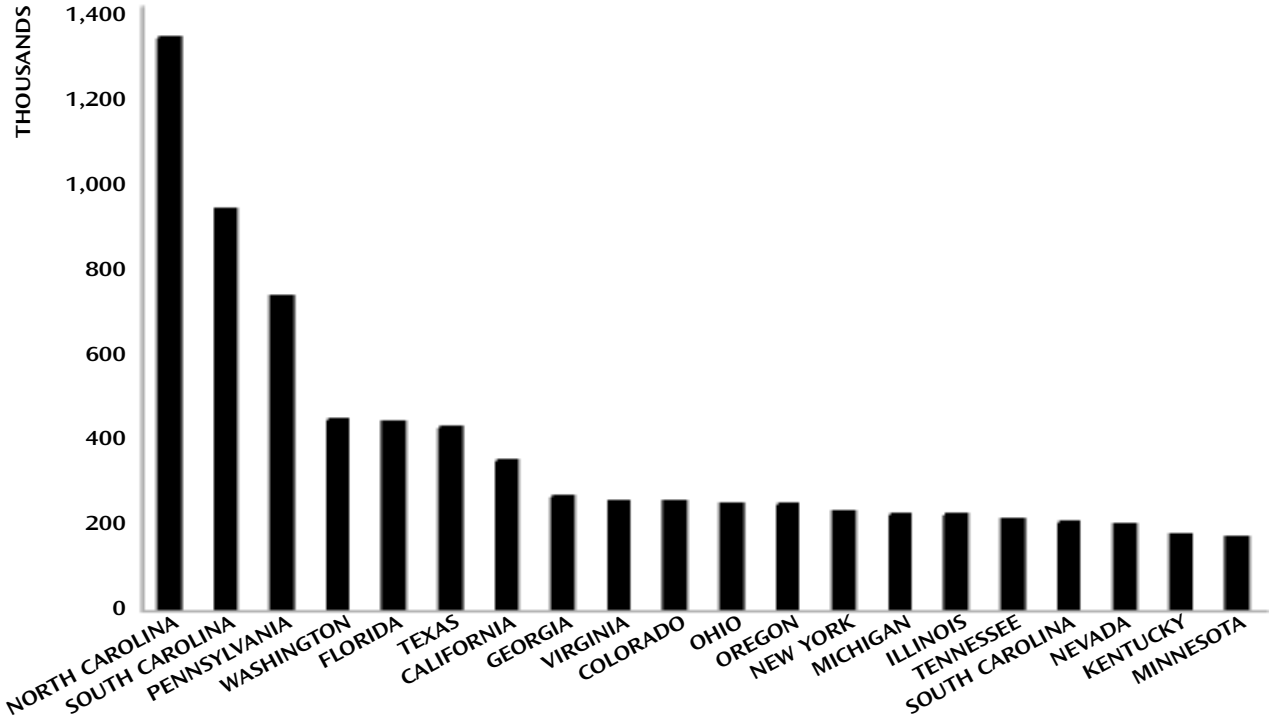
It is noted that the Housing for Older Persons Act is concerned with who is residing in the unit, not who owns the unit. Furthermore, state and local regulations could be stricter than the federal standards. In this case, the community must comply with the stricter legal requirements.

Market Penetration: Market penetration is a major factor of demand. The total pool of seniors is actually much larger than the number of seniors currently residing in senior housing. Many of the published estimates for demand, which include individuals already residing at these facilities, understate potential demand. Notably, even without an increase in the penetration ratio of the industry to the larger pool, favorable demographic trends are expected to produce annual demand growth of approximately two percent or greater.

However, not all the senior population will constitute effective demand for senior living facilities. First, a

Figure 5

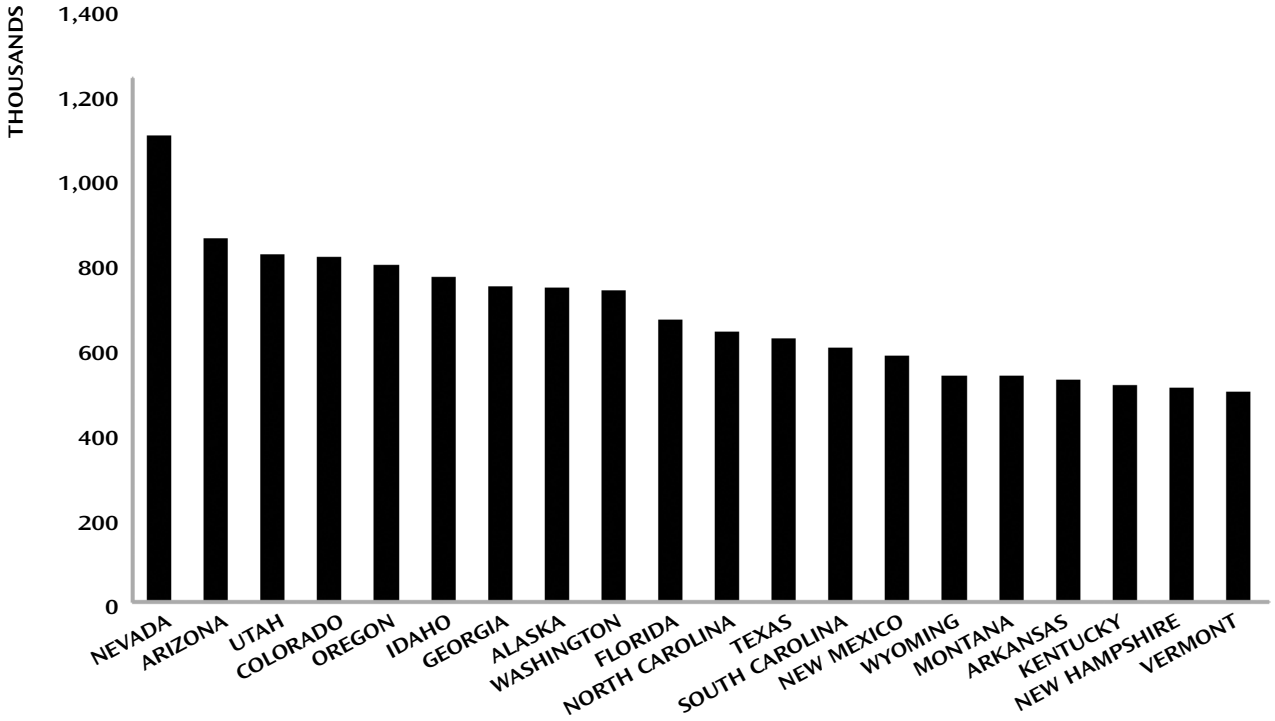
States with the Greatest Numerical Change in Population 65-plus (Projected), 2005-2010



Sources: ING Clarion Research & Strategy, Moody's Economy.com

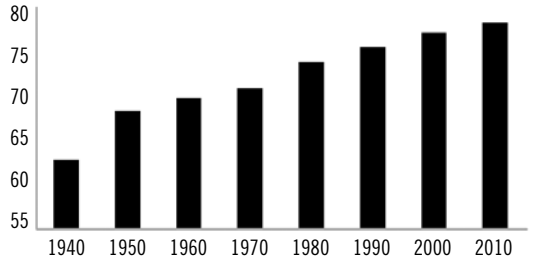
Figure 6

States with the Greatest Percentage Change in Population 65-plus (Projected), 2005-2010



Sources: ING Clarion Research & Strategy, Moody's Economy.com

Figure 7
Average U.S. Life Expectancy



substantial number of elderly continue to reside in self-owned single-family homes. Second, many seniors reside with spouses, roommates or family. After adjusting for these factors, the current estimate for the number of seniors who are renting or will rent senior housing in the target demographic cohort of persons age 75 and older is approximately three million (out of 18.2 million). At present, this senior renter group is increasing by approximately 100,000 households per year.

Affordability: cost effectiveness may play a significant role in the demand for senior housing. A study by the Assisted Living Federation of America (ALFA) determined that the average daily rate at an assisted living facility is approximately 85 percent of home healthcare cost, and 65 percent of the cost of residence at a skilled nursing facility.[12]

SUPPLY FACTORS

Historic Perspectives: Since the late 1990s, the development pipeline for senior housing has declined significantly. New senior construction in 2002 was approximately 80 percent less than that in 1999.[13] This decrease was largely attributable to the decline in investment interest and invested capital after the late 1990s. Over the past few years, senior housing construction activities have increased; however, the net new construction for independent living and assisted living is still relatively constrained.

New Development: The 2007 American Seniors Housing Association (ASHA) and National Investment Center (NIC) Senior Housing Construction Survey identified 35,880 senior housing units that began construction between April 1, 2006 and March 31, 2007, while 14,772 units remained under construction in properties that started construction before this period.[14] These pipeline units represent an approximate 1.6 percent increase to the total national stock of senior housing.

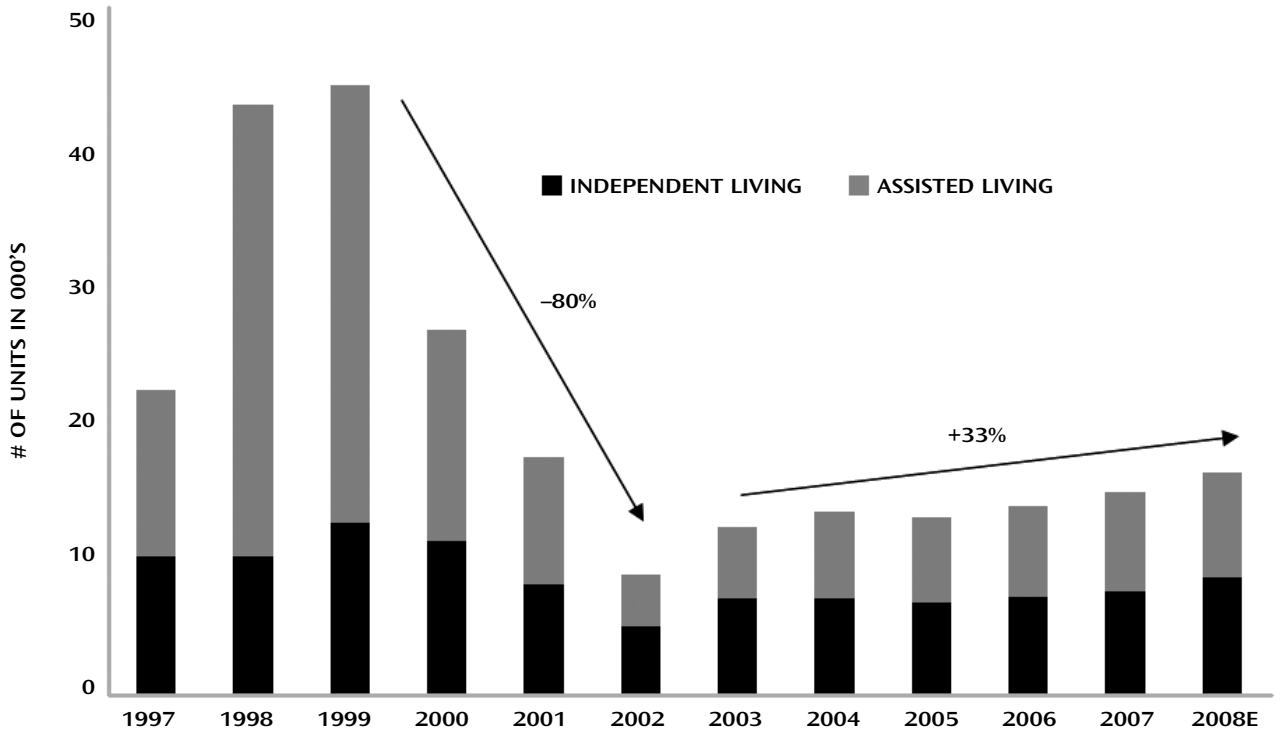
Geographic Distribution: While it may be expected that current development follows regional demographic trends, the geographic distribution of new construction reveals a different picture. The F.W. Dodge construction pipeline indicates that the Northeast and Midwest each account for a comparatively larger share of the 100,000-plus senior housing units currently under construction.[15] While the West and the South are, together, expected to account for more than 75 percent of growth in the senior population, the regions only account for a combined 45 percent of senior housing in development. Notably, there are twice as many senior housing units under construction today in Illinois as in Florida.[16]

There are two reasons for the remarkable difference between the regional distribution of new senior housing and the regional growth of the senior population. First, there is simply more existing senior housing in the South and West; regions which, historically, have higher shares of the senior population. In fact, these two regions already account for more than half of the nation's senior population, and well over half of the existing senior housing inventory. Second, increasing numbers of seniors are choosing to remain in their present states after retirement rather than moving to the Sunbelt regions. One recent survey named Chicago as one of the possible retirement destinations for aging baby boomers. Notably, Chicago is typically more affordable than many sunny destinations in parts of Florida and California. Those individuals currently living in Chicago may choose to remain there as they reach retirement, and in so doing, are likely to demand more service-oriented housing to meet their needs as they age.

Product Characteristics of Active Adult Communities: Active adult communities can be for-sale or for-rent, and are typically single-family homes, cluster homes and multi-family housing targeted to adults age 55 and older, offering amenities such as clubhouses, walking trails, exercise rooms and onsite security. Unlike the various forms of assisted living facilities, active adult communities do not provide any form of medical care; rather, services are focused on activities. Not only must developers of active adult communities accurately define the

Figure 8

Declining Senior Housing Construction*



** The construction data are from NIC/ASHA surveys and may not represent the national total*
Sources: ING Clarion Research & Strategy, National Investment Center/Amercian Seniors Housing Association

buyer profile and design to appropriate price points, they must also deliver housing that is superior, in terms of community planning, lifestyle and amenities, to the currently available product.[17] Because of their locations and pricing structures, active adult communities are indicative of the various non-traditional ways in which baby boomers are planning for their golden years.

Active senior demand is similar for both for-sale and for-rent housing, though there remain some general differences. For-sale active senior developments have traditionally been built in Sunbelt locations. These properties tend to be more amenitized, offering larger units, golf courses, higher-end furniture and fixtures, and generally more suburban. For-rent active senior developments are geared to more mobile tenants, who may still be working and living part-time at the property; using the rental as a second home to be near family or familiar surroundings. These properties are often built as urban infill, in or around the CBD, and in close proximity to shopping and public transportation. For-rent active senior developments are especially attractive to residents who prefer to live without the burden of a mortgage, and the maintenance and capital expenses associated with homeownership. Unit sizes in for-rent senior properties are typically smaller than that of for-sale properties, and amenities are typically lower-end. The market for rental-active senior housing is generally wider and more diverse than for-sale senior market.

Building and Community Design: The most successful active adult properties offer spacious units, state-of-the-art amenities, quality locations and high levels of services. The size, in terms of total units, of the typical active adult for-sale community is decreasing.[18] Sun City, Arizona, one of the first retirement communities to be built in the 1960s, had 25,000 homes. In 1996, the average community had more than 1,800 homes, and by 2004, that number

had declined to 393. Active senior rental communities typically range from as small as 20-30 units to as large as 300-400 units, but are seldom greater than 500 units. This trend is partially attributable to the dearth of large tracts of buildable land in more established urban areas.

Homeownership: There is a renewed focus on ownership models such as condos and co-ops in senior housing because 80 percent of seniors age 65 and older are accustomed to being homeowners rather than tenants. The rise in home values over the past five years has likely fueled this trend, as homeowners can enjoy the benefits of building equity and private ownership.

Industry Players: The emergence of larger, well-capitalized owners and managers will likely provide investors with reduced uncertainties concerning operations. At the same time, the larger owners and managers will likely gain greater access to investment capital. This trend is expected to fuel future M&A activities because the industry is highly fragmented with many mid-level and small players.

The top 50 largest senior housing owners and top 50 largest managers as determined by a 2007 ASHA survey are listed in figures 9 and 10 below.[19] The top 10 managers and 10 top owners account for 58 percent and 55 percent of the total units, respectively. The top brands include Sunrise Senior Living, American Retirement Corp., Horizon Bay, Erickson Retirement Communities and Encore Senior Living. No single brand or company is dominating the senior housing industry at this point, presenting an opportunity to build a brand name and increase market share.

SEGMENT PERFORMANCE

Improved Occupancy and Margins: The senior housing industry has successfully emerged from a period during which developers and investors, with several different business models, flooded the market. Skilled housing management operators are beginning to dominate the landscape, resulting in improved operations. Average margins for quality properties have increased across all sectors, with the independent living sector reporting margins in excess of 40 percent, while assisted living margins have risen to more than 30 percent for larger communities.

Since 2005, absorption in the senior housing industry increased significantly, thereby increasing the average occupancy rates in the top 30 metropolitan statistical areas (MSAs).[20] If this positive trend in absorption continues, occupancy rates are will likely remain healthy in 2008. In addition, the number of units under construction increased only moderately in 2007, further improving occupancy levels.

Cap Rates: Average cap rates range from 7.4 percent to 9.0 percent for independent living and assisted living facilities as of the third quarter of 2007.[21] It is likely that single-digit cap rates will remain in 2008 as institutional investors continue to show interest in the sector. The average cap rate stabilized in the second half of 2007, while the cap rate for independent living continues to decline by approximately 40 bps.

Investment Activity: Senior housing has continued to post strong performance in terms of loan volume, loan performance and equity investment as investors are increasingly interested in the sector. According to National Investment Center, total senior housing loan volume outstanding grew to $20.5 billion during the third quarter of 2007, 8.5 percent higher than the previous quarter. Loan performance continued to be strong with delinquency rate of only 0.6 percent as of the third quarter of 2007.[22]

Rent Growth: rents have increased at an average rate of 4.5 percent annually over the past 20 years, with rental growth trending upwards in 2006-2007.[23] It is likely that rent growth for senior housing will range from four to five percent over the next few years, depending on quality, types and geographic location of the properties.

RISK FACTORS

Although the investment outlook has improved considerably for the senior housing market, significant risks still remain.

Regulatory Risk: A large component of the senior housing industry is affected by complex regulatory requirements at the federal, state and local levels. Development of skilled nursing facilities and CCRCs requires the receipt of special permits from local governments, and the process can be quite time-intensive. Indeed, it may take three to six years from planning to final development of such facilities.

Healthcare Policy: The reimbursement requirements of

Figure 9

Largest 50 Senior Housing Owners in the U.S. as of July 1, 2007

RANK	COMPANY	HEADQUARTERS	UNITS	PROPERTIES
1	Holiday Retirement	Salem, OR	33,490	285
2	Health Care Property Investors, Inc.	Long Beach, CA	32,170	273
3	Boston Capital	Boston, MA	26,708	591
4	Sunrise Senior Living, Inc.	McLean, VA	25,131	235
5	Ventas Healthcare Properties, Inc.	Louisville, KY	23,906	252
6	Nationwide Health Properties, Inc.	Newport Beach, CA	22,943	300
7	Sunwest Management, Inc.	Salem, OR	21,963	271
8	Brookdale Senior Living, Inc.	Chicago, IL	18,448	167
9	Senior Housing Properties Trust	Newton, MA	18,112	138
10	Health Care REIT, Inc.	Toledo, OH	17,884	237
11	Atria Senior Living Group	Louisville, KY	13,638	120
12	Erickson Retirement Communities, LLC	Baltimore, MD	13,543	14
13	Senior Lifestyle Corporation	Chicago, IL	9,014	67
14	Simpson Housing Solutions, LLC	Long Beach, CA	8,537	89
15	Chartwell Seniors Housing REIT	Mississauga, Ontario	7,036	51
16	ACTS Retirement-Life Communities, Inc.	West Point, PA	6,950	18
17	Horizon Bay Senior Communities	Tampa, FL	6,919	50
18	First Centrum, LLC	Sterling, VA	6,631	97
19	Evangelical Lutheran Good Samaritan Society	Sioux Falls, SD	6,625	112
20	Assisted Living Concepts, Inc.	Menomonee Falls, WI	6,183	153
21	Merrill Gardens	Seattle, WA	5,993	45
22	Classic Residence by Hyatt	Chicago, IL	5,722	18
23	Century Park Associates	Chattanooga, TN	5,557	45
24	Emeritus Corporation	Seattle, WA	5,499	75
25	Presbyterian Homes & Services	Roseville, MN	5,499	36
26	Brightview Senior Living	Baltimore, MD	5,100	46
27	USA Properties Fund, Inc.	Roseville, CA	5,079	34
28	Capital Senior Living Corporation	Dallas, TX	4,724	37
29	Covenant Retirement Communities	Chicago, IL	4,630	13
30	American Senior Communities	Indianapolis, IN	4,404	27
31	Benchmark Assisted Living	Wellesley, MA	4,006	43
32	LTC Properties, Inc.	Westlake Village, CA	3,744	84
33	Retirement Housing Foundation	Long Beach, CA	3,697	21
34	Lytle Enterprises, LLC	Bellevue, WA	3,691	25
35	Kisco Senior Living	Carlsbad, CA	3,651	23
36	Life Care Retirement Communities, Inc.	Des Moines, IA	3,548	11
37	Westminster Communities of Florida	Orlando, FL	3,170	11
38	Starwood Capital Group Global, LLC	Greenwich, CT	3,143	12
39	Life Care Services, LLC	Des Moines, IA	3,142	14
40	Americare	Sikeston, MO	3,100	86
41	American House Senior Living Residences	Bloomfield Hills, MI	3,083	29
42	Mountain West Retirement Corporation	Salem, OR	2,962	27
43	Asbury Communities	Germantown, MD	2,904	7
44	Lutheran Senior Services	St. Louis, MO	2,887	10
45	Cornerstone Affiliates	Pleasanton, CA	2,874	11
46	The Kendal Corporation	Kennett Square, PA	2,615	12
47	Christian Homes, Inc.	Lincoln, IL	2,613	17
48	Front Porch Communities	Burbank, CA	2,554	11
49	Prime Care Properties, LLC	Indianapolis, IN	2,526	21
50	Justus Rental Properties, Inc.	Indianapolis, IN	2,472	7

Sources: ING Clarion Research & Strategy, ASHA

Total Units: 440,420
Top 10: 240,755

Figure 10

Largest 50 Senior Housing Managers in the U.S. as of July 1, 2007

RANK	COMPANY	HEADQUARTERS	UNITS	PROPERTIES
1	Brookdale Senior Living, Inc.	Chicago, IL	51,638	549
2	Sunrise Senior Living, Inc.	McLean, VA	45,932	419
3	Holiday Retirement	Salem, OR	33,490	285
4	Professional Community Management (PCM)	Lake Forest, CA	29,788	16
5	Life Care Services, LLC	Des Moines, IA	22,075	78
6	Sunwest Management, Inc.	Salem, OR	21,679	266
7	Emeritus Corporation	Seattle, WA	16,463	202
8	Atria Senior Living Group	Louisville, KY	13,809	122
9	Five Star Quality Care, Inc.	Newton, MA	13,764	115
10	Erickson Retirement Communities	Baltimore, MD	13,543	14
11	Horizon Bay Senior Communities	Tampa, FL	11,913	70
12	Senior Lifestyle Corporation	Chicago, IL	9,378	70
13	Assisted Living Concepts, Inc.	Menomonee Falls, WI	8,325	207
14	Capital Senior Living Corporation	Dallas, TX	8,237	64
15	Summerville Senior Living, Inc.	San Ramon, CA	7,931	81
16	Evangelical Lutheran Good Samaritan Society	Sioux Falls, SD	7,297	127
17	ACTS Retirement-Life Communities, Inc.	West Point, PA	7,005	18
18	Merrill Gardens	Seattle, WA	6,770	52
19	Leisure Care, LLC	Seattle, WA	6,630	39
20	American Senior Communities	Indianapolis, IN	5,839	39
21	Classic Residence by Hyatt	Chicago, IL	5,722	18
22	Presbyterian Homes & Services	Roseville, MN	5,572	37
23	Century Park Associates	Chattanooga, TN	5,557	45
24	Brightview Senior Living	Baltimore, MD	5,415	48
25	USA Multifamily Management, Inc.	Roseville, CA	5,079	34
26	First Centrum, LLC	Sterling, VA	4,988	47
27	CRSA Management, LLC	Memphis, TN	4,973	18
28	Covenant Retirement Communities	Chicago, IL	4,557	13
29	Benchmark Assisted Living	Wellesley, MA	4,006	43
30	Hearthstone Senior Services	The Woodlands, TX	3,795	32
31	Kisco Senior Living	Carlsbad, CA	3,792	25
32	Retirement Housing Foundation	Long Beach, CA	3,697	21
33	Senior Care, Inc.	Louisville, KY	3,643	51
34	American House Senior Living Residences	Bloomfield Hills, MI	3,378	31
35	Continuing Care Management, LLC	Wesborough, MA	3,300	30
36	Cornerstone Affiliates	Pleasanton, CA	3,222	14
37	Westminster Communities of Florida	Orlando, FL	3,170	11
38	Lutheran Senior Services	St. Louis, MO	3,001	11
39	Americare	Sikeston, MO	3,000	82
40	Mountain West Retirement Corporation	Salem, OR	2,962	27
41	Asbury Communities	Germantown, MD	2,904	7
42	Front Porch Communities	Burbank, CA	2,828	13
43	Grace Management, Inc.	Minneapolis, MN	2,621	29
44	Senior Care Group, Inc.	Tampa, FL	2,621	21
45	The Kendal Corporation	Kenneth Square, PA	2,615	12
46	Life Care Retirement Communities, Inc.	Des Moines, IA	2,577	7
47	George M. Leader Family Corp.	Hershey, PA	2,564	11
48	Oakdale Heights Management Corporation	Redding, CA	2,528	24
49	Justus Rental Properties, Inc.	Indianapolis, IN	2,472	7
50	Aegis Living	Redmond, WA	2,429	33

Sources: ING Clarion Research & Strategy, ASHA

Total Units: 450,494
Top 10: 262,181

Figure 11

Occupancy Rates 2007 Q3

Property Type	Occupancy Low	Nbr. of Properties Sampled
Independent Living	91%	581
Assisted Living	88%	1,412
Skilled Nursing Homes	86%	1,002
CCRCs	92%	167
Independent Units in CCRCs	93%	165
Assisted Living Units in CCRCs	88%	133
Skilled Nursing Beds in CCRCs	88%	142

Source: National Investment Center

Figure 12

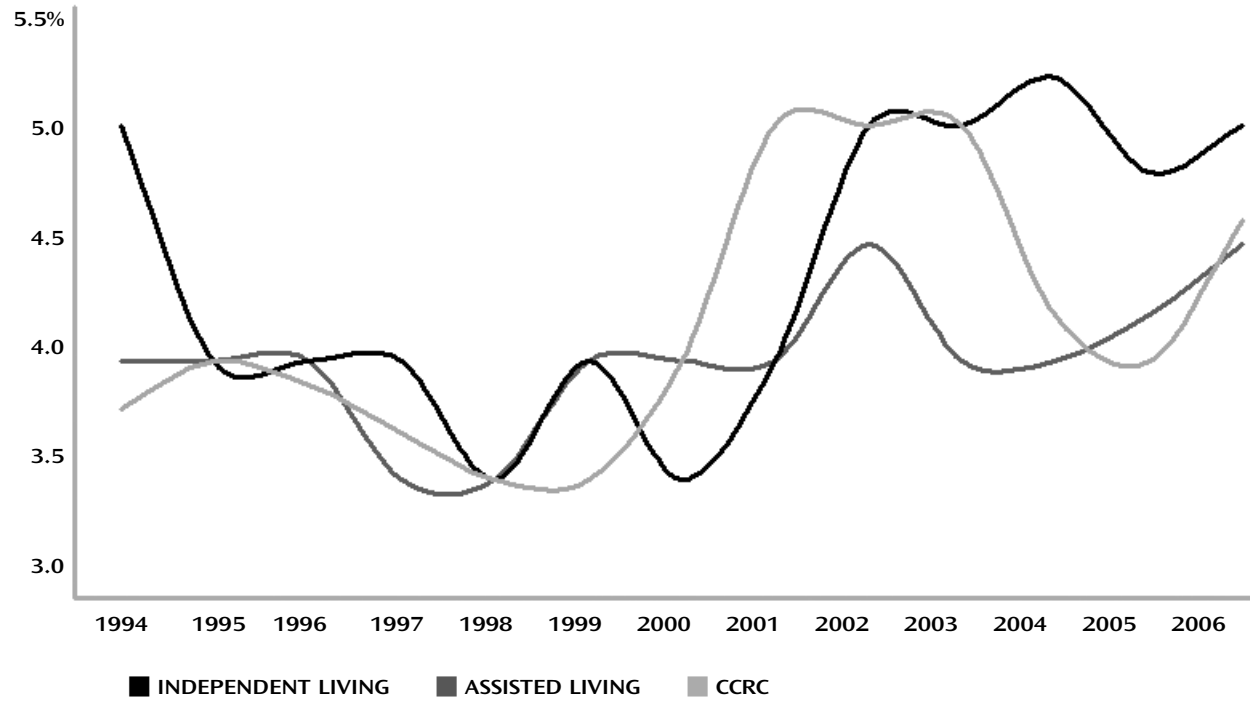
Capitalization Rates, 2007 Q3

Property Type	Low	Avg./change from 2006Q3	High
Independent Living	4.9%	7.4% (-40 bps)	10.0%
Assisted Living	6.0%	9.0% (+10 bps)	12.5%
Skilled Nursing Homes	9.0%	12.8% (-10 bps)	14.5%
CCRCs	9.1%	(+20 bps)	14.0%

Source: National Investment Center

Figure 13

Annual Rent Growth in Senior Housing Facilities



Source: American Seniors Housing Association

the industry are also complex and unpredictable. Skilled nursing and CCRC facilities receive significant reimbursement for healthcare related services from Medicare and Medicaid, programs which face increasing budgetary constraints.

Age-restricted and independent living facilities are typically non-regulated. As such, Medicaid payments account for just a small amount of revenue to these types of facilities, and have no impact on the revenue of independent living facilities.

Operating Risk: The senior housing industry is both an operating service business and a real estate investment and, depending on the level of service provided, may require up to five times the amount of operating personnel than does a multi-family property.[24] It is difficult for management to realize operating efficiencies through the various activities of staffing, catering, administrative expenses and insurance. Operating licenses, too, are difficult to transfer. Finally, healthcare costs are rising much faster than the pace of inflation and show no signs of abating, the result of which we believe could deleteriously affect the medical service aspect of the business.

Operating risk can be mitigated by careful selection of experienced, professional operators who have demonstrated successful business performance. We believe that the selection of operators should be based on both financial strength and industry expertise. Desirable operators are those leading companies with at least five years of experience in the senior housing industry.

Business Risk: As a relatively young industry, senior housing has a short track record from which to gauge investment risk. We believe that investment should be diversified not only in different geographic areas, but also by engaging with different operating partners. Institutional investors can establish joint ventures or partnerships with a few large, well-established operating partners. For example, California Public Employees' Retirement System (CalPERS) does not allow more than a third of its senior housing investment to be associated with a single operator.

Volatility and Turnover: In general, the annual turnover rates for independent living and assisted living are approximately 30 percent and 50 percent, respectively, which is much less than the annual turnover rate for conventional apartments.[25] Although skilled nursing facilities have a higher turnover rate, seniors in general tend to be a very stable population with little reason to move. On a risk-adjusted basis, senior housing returns are significantly higher than conventional apartment investments. Cap rates are still approximately 150 bps higher for senior housing product, despite the fact that occupancy rates tend to be more stable than those of conventional apartments.

We believe that most of the mistakes in the senior industry have been made on the development side, with the lease-up period often being long and unpredictable. However, once the property is stabilized, the turnover tends to be less volatile. As such, vacancy loss, marketing and redecorating costs of stabilized properties are comparatively lower.[26]

Market Penetration Risk: There are risks associated with the perception that many seniors view these facilities as less desirable than remaining in their own homes. The preference for homeownership and certain lifestyle amenities may significantly undermine market penetration. In addition, some fiscally conscious seniors may find the "entry fee" pay structure unappealing, making them reluctant to give what is essentially an interest-free loan to the facility (assisted living and CCRCs). Finally, there is a lack of clear industry-specific definitions and performance benchmark measures.

Generation Gap Risk: There is a big gap between the two largest generations: baby boomers and echo boomers (born between 1980 and 2001). Many baby boomers are counting on cashing in their homes to fund their future retirement. However, their houses may not fetch their current prices several years from now as sellers will likely outnumber potential buyers at that time. The situation certainly poses a significant risk for seniors to make a smooth transition from traditional homes ownership to senior living.

SECTOR OUTLOOK

The senior housing industry today is very different from its profile in the 1990s, and in fact has improved significantly in several aspects:

- A rapidly growing and more affluent senior population has been driving demand for updated facilities with a residential look and feel, and recreational activities.

- Many seniors prefer to retire and live near their social network, instead of migrating to the Sunbelt states.
- Improved research and reporting by industry organizations is leading to improved transparency of supply and demand trends and better estimates of the industry scope.
- The decline in new development is resulting in higher occupancy rates and profit margins.
- Several large, well-established operators with national presence are emerging through industry consolidation. These operators leverage experience and scale leading to improved operating margins.
- The rapid maturation of new channels for real estate finance and investment are providing adequate capital to fuel industry expansion.
- Institutional investors are buying high-quality assets because of improved fundamentals and relatively high yields.
- Cap rates are declining to new lows, and stabilized properties are being sold at record prices.

Near-term and Long-term Outlook: Strong underlying demographics, which are projected to persist for several decades, especially after 2010, support industry demand growth at current levels of penetration. Total potential demand greatly exceeds current industry capacity. Growing industry concentration and improved fundamentals will likely provide investors with an industry structure conducive to institutional investment. Therefore, the long-term outlook for the senior housing industry is positive, suggesting that this secular trend will provide one of the best investment opportunities in the apartment sector over the next 10 to 20 years.

Because of relatively constrained construction activities over the past few years, demand is outweighing available supply. Occupancy rates and operating margins are at five-year highs; therefore, in the near-term, the cyclical trend is also positive. However, because the senior population is growing at just two percent each year, and peak baby boomer demand is not likely to occur for a few more years, a sudden increase in supply could easily tip the balance to over-supply.

As more capital flows into the senior housing sector and properties continue to sell at near record prices, new construction activity will likely increase. The extent to which construction will increase, however, is unknown. It is likely that the slowdown in the conventional residential housing market will encourage some builders to enter the senior housing sector.

Figure 14

SWOT Analysis

STRENGTHS	WEAKNESSES
■ Long-term favorable demographics with rapid growth of senior population ■ Cost-effective living options based on well-defined business models ■ Near-term low supply and high demand ■ High occupancy levels, low turnover rates, and excellent cash flows ■ Good portfolio diversification due to low correlation with external economic factors	■ Peak of the senior population still a few years away ■ Some segments have high non-real estate component ■ Long lease-up period, service intensive; requires an experienced operator ■ CCRCs have low transaction liquidity
OPPORTUNITIES	**THREATS**
■ Focus on major market with large, growing senior populations and high occupancy ■ Rehab and reposition old senior housing properties ■ Target the booming 2nd homes for the baby boomers and possible retirement communities near university campuses ■ Explore re-development projects in high growth markets	■ Uncertainty in market penetration - more seniors prefer homeownership to renting ■ Record prices and low cap rates ■ Low barriers to entry and new supply can disrupt the market and reduce occupancy ■ Rising healthcare costs; dependent on government healthcare policy

STRATEGIC OPTIONS

Target Active Adult Community and Independent Living: We believe that the current supply and demand balance strongly favors active adult communities/senior apartments and independent living properties. Expected population growth in these two segments will likely exceed supply in the foreseeable future due to limited supply growth over the past few years, a consequence of the scarcity of construction financing available to this sector. Active adult community and independent living properties are not constrained by healthcare service requirements, and as such, may be considered as part of an apartment allocation. Based on the underlying demographic fundamentals, the returns of active adult community and independent living properties are not closely correlated with the returns of conventional multi-family properties, and can potentially increase portfolio returns and mitigate risk.

Selectively Buying Assisted Living: The assisted living segment, which targets the fast-growing 85-plus population, was drastically overbuilt in the late 1990s, well in excess of demand for the product. Today, occupancy rates and operating margins are increasing, but remain below their previous peaks achieved in the mid to late 1990s. However, because more seniors prefer homeownership to

Figure 15

Senior Housing Segment Attractiveness

Active Adult Community/Senior Apartments	Pros	Continued home ownership, appealing to Baby Boomers, suitable for their 2nd homes, 100% real estate	**Attractive**
	Cons	Competing with conventional single family residential or condo market, more supply in pipeline	
Independent Living	Pros	Simple, cost-effective operation, in demand, preferred by seniors, first mover advantage - waiting for Baby Boomer wave	**Attractive**
	Cons	Not the peak of population yet, renting instead of owning	
Assisted Living	Pros	Improved margins, 85+ population growing fast, supply slowing, room for further improvement in occupancy	**Neutral**
	Cons	Big wave still a few years away, renting instead of owning, large non-real estate component	
Skilled Nursing	Pros	Revenue dependent on government reimbursement, recent Medicare Bill positive, cap rates still high	**Less Attractive**
	Cons	Regulated, some non-profit, healthcare reform uncertainty, increasing healthcare costs, proposed Medicaid cut negative, larger non-real estate component	
CCRC	Pros	High occupancy, improved margins, gaining popularity	**Less Attractive**
	Cons	Complex to operate, difficult to develop, low liquidity	

renting, the effective increased demand in the segment is growing at approximately two percent per year, with a more significant increase in demand likely in the future. Moreover, the real estate component accounts for just 50 percent to 60 percent of the assisted living segment. It is projected that between 2005 and 2010, the population of persons age 85-plus will grow to approximately 6.1 million, a compound annual growth rate of 3.1 percent. Notably, the existing bed stock is only 1.9 million. Overall, it appears that the assisted living segment has the strongest potential within the senior housing sector going forward, with the ideal investment period occurring two to four years from today. As such, we believe that current investments in assisted living must be selectively based on the quality of assets and their locations.

Avoid Skilled Nursing and Continuing Care Retirement Communities (CCRCs): Despite improved operating margins, the skilled nursing segment is not recommended for investment. A highly regulated sector, its profits are likely to be squeezed due to the rapidly rising costs of direct medical care and changes in Medicare coverage. We believe that proposed cuts in Medicaid and pending healthcare reforms are likely to negatively impact medical-related services going forward. More important, real estate represents approximately 30 percent of the skilled nursing segment and, as such, investments may not meet required returns.

CCRC is a segment that warrants close monitoring, as the product is gaining popularity among seniors, and current occupancy rates and operating margins are impressive. However, CCRC facilities are challenging to build and must comply with stringent regulatory requirements. Consequently, such facilities are arguably best suited for local operation and ownership. Few CCRC facilities are traded each year, suggesting the sector's low liquidity, and therefore likely making the sector less attractive for institutional investors.

Focus on a Few Top Markets—Both Sunbelt and Non-Sunbelt Locations: It is essential to identify those markets that are most conducive to the growth of the senior housing sector, and to clearly understand the supply and demand dynamics of such markets. Of particular interest are those affluent markets (large MSAs) with high percentages of older baby boomers. Because the entitlement process tends to be less rigorous, there is generally more flexibility in selecting locations for new active senior developments than for other multi-family projects. As such, we believe that senior housing development need not be confined to the Sunbelt suburbs. Potential locations include those in relatively close proximity (up to two hours drive time) to MSAs with populations greater than five million. We believe that new active senior development is likely to occur on the periphery of major metropolitan areas and in exurbs in which residents will have broader recreational options. The greatest new opportunities may well be in non-sunbelt locations that are close to urban areas, but with plentiful, inexpensive and developable land with more relaxed entitlement and development regulations. Ideal locations, as with other multi-family developments, are those that are supply-constrained and have a high barrier to entry.

Based on senior population and median household income, the top 50 MSAs are mapped in comparison to the U.S. average. Clearly, markets with both higher share of senior population than the national average and higher median household income than the nation are desirable for senior housing investment. Accordingly, we believe that it is imperative to design a strategy that accurately matches the appropriate products to their target markets.

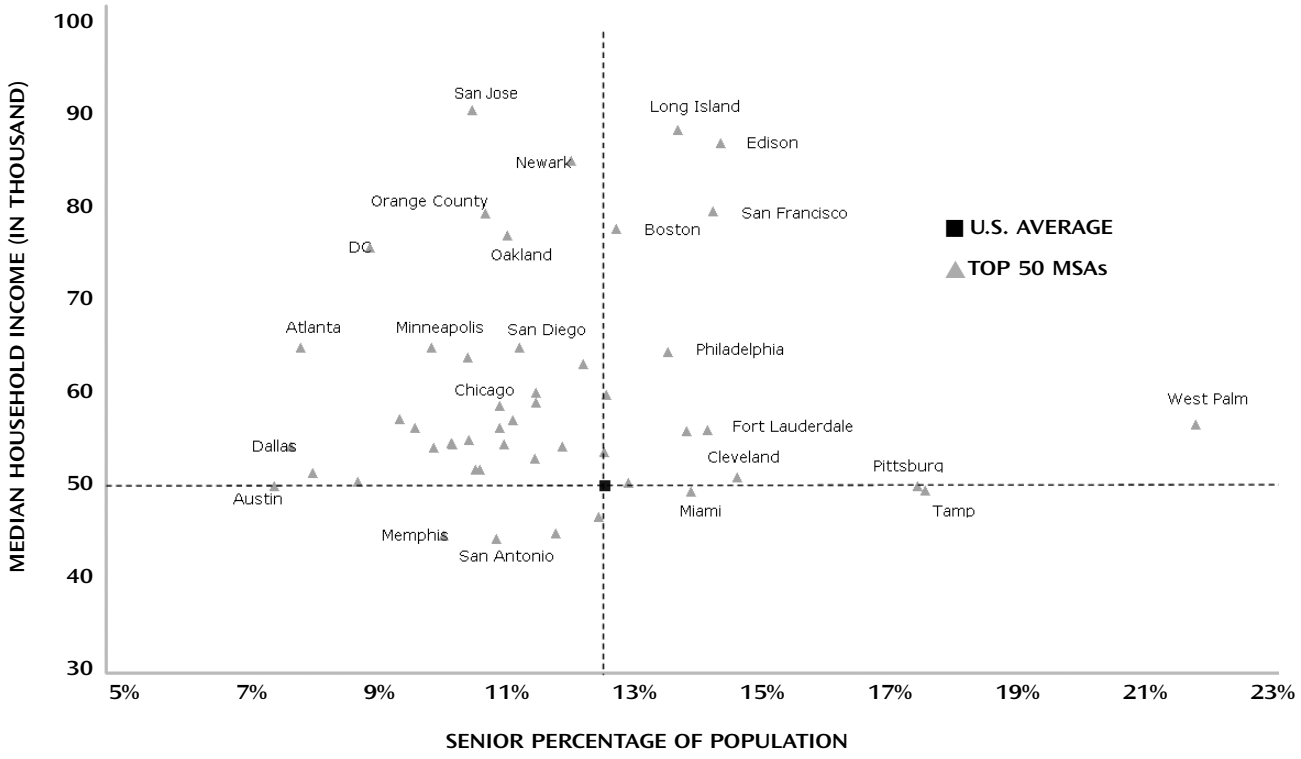
Investment Criteria: For most facilities, the breakeven occupancy is typically 80 percent, and occupancy levels in excess of this figure will immediately enhance NOI. We believe that a sound investment portfolio will include active adult communities, senior apartments and independent living assets with stabilized occupancy. To further diversify the portfolio, investment in several geographic regions and partnerships with two to three operators and/or managers is recommended. A properly selected portfolio has the potential to generate five to seven percent cash returns and a total leveraged internal rate of return (IRR) ranging from nine to 12 percent.

An ideal senior housing property has the following characteristics:

- Located in a major MSA with a large and growing senior population
- In areas with household income above $75,000
- Demonstrated high occupancy and limited new supply in the pipeline

Figure 16

Top 50 Metropolitan Statistical Area Markets for Senior Housing



Source: American Seniors Housing Association

- Private pay structure with a minimum non-profit component
- A minimum of 110 units in the property
- In close proximity to medical providers and public transportation
- Limited competition within a 10-mile radius of the property
- Relatively high barriers to entry

Value-Added / Development Opportunities: Many senior housing properties are ideally located but require extensive renovation and upgrades. As cap rates continue to compress, the opportunity to engage in value-added redevelopment is increasingly appealing. With the land already selected, such projects have the potential to be quite profitable. Investors, however, must be willing to assume the additional risks associated with the initial lease-up period.

Target the Luxury Upper End of the For-sale and Rental Segments: Baby boomers are the wealthiest generation in history, and many are entering their retirement years having accumulated significant wealth. With discerning taste and a willingness to pay for quality, baby boomers will likely seek luxury developments that offer a wide range of services. Of particular appeal are locations near resort, recreation and social destinations. Investment in the luxury segment offers the potential to realize the highest sale and rent premiums. Moreover, investment in this niche affords both the opportunity to stand apart from commodity developers and to build a brand and reputation.

Target the Cost-Sensitive Middle Market: Many baby boomers subsist on moderate, fixed incomes, and do not want to live above their means. For this group, active senior housing could provide an economically prudent

lifestyle. In a form of *housing cost arbitrage*, many empty-nesters realize that they have more house than they need, which may prove expensive to maintain. Notably, many empty-nesters' homes are located in high property tax jurisdictions in the Northeast. By selling their homes and buying new residences that are smaller and more energy efficient, we believe that baby boomers can accumulate significant equity while living more cost-efficiently.

Retirement Communities Near College Campuses: A unique investment strategy is the development of senior residences aimed at university alumni wishing to live near their alma maters. With a wealth of educational and recreational offerings, universities have clear potential to attract alumni to the vicinity. Because such alumni tend to be well-educated, affluent and willing to donate, universities should benefit greatly from their presence.

Strategic alliances and joint ventures with universities are especially attractive because colleges have the credibility, capability and potential for comparatively lower land costs. In 2005, Hyatt, in conjunction with Stanford University, built a $170 million four-story upscale retirement residence in Palo Alto, California. Current residents include two Nobel laureates, a former Cabinet member, and the inventor of the cherry-picker truck. Similar new developments have sprung up near Cornell University in Ithaca, New York and Dartmouth College in Hanover, New Hampshire. It is likely that this trend will continue and attractive investment opportunities will arise near other renowned college campuses.

Opportunity to Build Brand Equity: The senior housing industry is highly fragmented with no single player dominating the market. We believe that the continued consolidation of owners and operators is likely. Opportunities exist to gain market share and build a national brand through strategic portfolio and property acquisitions.

Partnering with a Seasoned Operator: The senior housing sector, with the exception of the active adult community segment, is service-oriented and, as such, operating efficiency is critical to achieving target profit margins. Further, due to frequent turnover of units and a slow initial lease-up period, strategic marketing is essential to reaching and maintaining target occupancy rates. A large, well-established operator can leverage its experience and economies of scale to achieve high occupancy levels and operating margins.

The senior housing industry is still relatively young and investors are still in the process of learning to understand the industry. Thus in choosing an operating partner, it is essential to review the potential partner's management experience and financial position. Because most senior housing operators have less than 20 years of operating experience, a thorough credit evaluation and review of auditor opinions can prove informative. Just as diversification by property type is important to ensuring a healthy investment portfolio, diversification by partnering with several operators can similarly mitigate operating risk. ■

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Special Master Bias in Eminent Domain Cases

BY S. ALAN AYCOCK, CPA, Ph.D., AND ROY BLACK, Ph.D., J.D.

OVERVIEW OF EMINENT DOMAIN VALUATION

The various state laws in the United States are consistent on eminent domain valuation: the stated goal is the difference between the total value of the property before the taking and the total value after the taking. Various states break the valuation into two portions: (1) the value of the actual property taken; and (2) the reduction in value of the remaining property due to the taking. This reduction in value of the remaining property is also known as consequential damages.

To attempt to speed up the resolution of eminent domain cases, the various states employ arbitrators or arbitration panels to hear these cases and render a decision on property value. Eighteen states appoint attorneys—special masters—to hear these cases.[1] These states require a special master proceeding to be completed before an appeal to a higher court can be filed. The special masters are limited to deciding the amount due the property owner for the property taken, and they generally have broad discretion on admissibility of evidence. The decision of the special master can be appealed to a court of general jurisdiction and a jury trial.

The study in question concerns eminent domain cases in Georgia, where the special master is appointed by the judge or judges of the Superior Courts (the courts of general jurisdiction).[2] It is common for the condemnor to request the appointment of a specific individual as special master at the time the eminent domain action is filed in court; generally, the court agrees with the suggestion and makes the appointment. Hence, the condemnor is in effect appointing the arbitrator. Evidence from the actual cases analyzed suggests that there may be profound and persistent systematic bias by special masters toward the condemning authority.

Bias in valuations favoring the condemnor could have several possible causes:

- Direct appointment of the special master by the condemnor, or at least great influence by the condemnor in the selection process;

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- A perception by the special master that awards favoring the condemnee will result in fewer appointments in the future; or
- A conservative bias resulting from a lack of valuation training that favors erring on the low side.

The problem in dealing with bias in special master cases is that the law tends to contemplate, and be oriented toward, *individual* bias but not *systematic* bias. The Georgia law is illustrative. In Georgia, the responsibility of the special master is to establish the value of the property condemned, and nothing else.[3] Georgia case law characterizes the special master's decision as judicial, or at least quasi-judicial.[4] Thus, the special master is a judicial officer within the contemplation of the immunity doctrine.[5] A complaint could be filed against a special master for bias, but it would be decided under the rules applicable for judicial misconduct. Such rules contemplate discipline for bias against an individual, but systematic bias in the form of consistently low or high awards would have no remedy.

The states require a special master proceeding to be completed before an appeal may be filed. Counsel for the condemnee may find it difficult to ascertain the pattern of rulings for any particular special master, since special masters often are only required to award an amount for the taking, and not issue a formal ruling that may be analyzed. Attorneys appointed as special masters may work in several different jurisdictions as well, making such research difficult. The states make removal of a special master difficult, and the removal requires a ruling from a superior court judge.

The sole remedy (other than judicial misconduct) for correcting special master errors is an appeal in Superior Court, the trial court of general jurisdiction in Georgia. However, the special master's finding of value will not be set aside if it is within the range of the evidence presented at the hearing.[6] It would appear, then, that an attempt to appeal a special master's award who is systematically high or low will be unsuccessful. If moral hazard is present in the selection of the special master by the condemnor, the awards will tend to be systematically low. Awards that are systematically low will not be successfully attacked if they are within the range of the evidence, and the special master is shielded by judicial immunity and subject to attack only for the extraordinary grounds of bias that are addressed in judicial misconduct cases. This study will show that special master awards exhibit systematic bias toward lower valuations.

RESEARCH HYPOTHESES AND METHODS

The test hypothesis will be that final awards to property owners—whether settlements or jury awards—vary dramatically both from the condemnor appraisal and from the special master award. These jury awards/settlements tend to be statistically much closer to the value ascertained by the appraiser for the property owner. This will be the first study using data from a number of individual condemnation cases, with the research goal being to show quantitatively that this bias exists.

The research will look at 16 actual eminent domain cases. It will compare the initial appraisal value proposed by the condemnor with: (1) the appraisal obtained by the property owner; (2) the award granted by an arbitrator; and (3) the final settlement amount. Most of the cases studied are partial takings.

The proposed study will use actual individual eminent domain appraisals performed by two different appraisers, one each for the condemnor and the property owner, and use actual settlement amounts to determine if bias may exist. The importance of this study is that prior research has not quantitatively examined actual appraisals and settlements to determine if appraisal bias might exist. The data was generated from cases supplied by two Atlanta law firms.

A thorough search of the major real estate journals dealing with appraisal issues—*The Appraisal Journal, The Journal of Real Estate Research* and *The Journal of Housing Research*—does not yield any articles on this specific topic of appraisal bias and eminent domain. While a review of appraisal behavioral research articles did not find a study specifically related to the issues involved in eminent domain valuation, this prior research does identify appraisal behavioral patterns that could have an impact on the appraisal results in an eminent domain case.

EMINENT DOMAIN LITERATURE

A recent study by Clauretie, Kuhn and Schwer[7] examined mass residential condemnation appraisals due to a major airport expansion. The government appraisers used a few discrete attributes for each house—such as number of bedrooms, lot size, number of bathrooms—to estimate

value. Individual appraisals were not performed. The properties were all complete takings. The researchers found that:

- the appraisers tended to undervalue properties with lower market values and overvalue those with higher market values;
- within the overall study, government appraisers overvalued the properties by an average of 17 percent; and
- these variations were perhaps caused by the appraisers using models with fewer variables than might be used in a typical appraisal.

The researchers did not address the possibility of bias in the government appraisers, nor did they address the possibility that individual appraisals of the properties being taken may have yielded different results than those achieved using a generic model.

Another earlier study by Kowalski and Colwell[8] compared market values with assessed values for property tax purposes. The authors found an underassessment (undervaluation) of properties as a result of the failure of government appraisers to include evidence of incremental value—such as frontage or ability to subdivide—into the assessed value. The study did not address the possibility of bias, nor was it focused on eminent domain actions.

Guidy and Do[9] compared eminent domain valuations for single-family homes in San Diego, California, to market transactions. The study does not explain the methodology of the government valuations nor does it explain the purpose of the takings. The study did not review individual appraisals; instead, the researchers used market sales from the local residential multiple listing service in the same areas as houses taken for eminent domain purposes. The study used seven standard attributes of housing (views, size, bathrooms, etc.), then compared mean sales prices of the market transactions with the mean prices of those taken via condemnation. The authors found that the properties taken by the government averaged 4.7 percent more in price than comparable market transactions. The authors did not attempt to explain why this variation might occur. This study also did not examine if the price paid by the condemnor was more or less than the condemnor's appraisal.

Fennell[10] in a law review article studied the undervaluation of properties in eminent domain from a legal perspective. The article indicated that regulatory takings persistently undervalued property because the condemnor did not place value on the real options—"surplus value"—enjoyed by the property owner, nor on the ability of the owner to rebuild or replace the property in question for the value received. This article is a needed and thorough review of legal issues and alternatives, but does not address specific appraisal concerns, nor does it contain any quantitative analysis.

MORAL HAZARD LITERATURE

Gwin and Maxam[11] questioned why appraisals so often equal the offer price and whether moral hazard exists when a lender can award an appraiser more work for generating appraisals that help close a loan transaction. The appraiser may tend to overstate the property value if he feels the lender wants him to do so; however, the point of the research is whether this moral hazard problem actually creates any problems for the participants in the transaction. Gwin, Ong and Spieler[12] found an increased incentive for the appraiser to set value equal to the purchase price in a bear market, and found that the likelihood that the appraised price would equal the purchase price increased as loan-to-value (LTV) increased.

Devaney[13] argued that moral hazard in appraisal was directly related to how much risk was retained by the lender. His study of residential loans indicated that, when mortgages are primarily originated and sold immediately, the appraisals were equal or higher than the contract price over 98 percent of the time. Commercial real estate loans are primarily held by the loan originator and not sold, because of the uniqueness and complexity of the transaction, hence, moral hazard was much less apparent. These findings are consistent with Enstrom,[14] who studied commercial property loans and appraisals in Sweden. Ferguson,[15] and suggests that appraisers test themselves using statistical measures like standard deviation to determine if bias has crept into their work.

Cook and Roth[16] studied appraisal bias in institutional investments and found two basic problems: (1) appraisers relied more on historical information and much less on definitive market studies; and (2) real estate advisors earned fees based on the appraised value of the portfolio, creating incentives for bias.

BEHAVIORAL LITERATURE

Client feedback has been shown in numerous studies to influence the appraisal result. Value adjustments under client pressure were found by Kinnard, Lenk and Worzala,[17] Wolverton and Gallimore[18] and Levy and Schuck.[19] Hansz and Diaz[20] found that transaction feedback on commercial property values indicating that the appraisal was "too low" caused appraisers to adjust subsequent valuations by a significantly higher amount. Diaz[21] found that appraisers were not influenced by previous value opinions of other experts. Wolverton[21] noted that appraisers were subject to greater coercive feedback when a higher percentage of their work was for mortgage brokers or for specific attorney/client groups. Wolverton also found that private-party clients had less influence on the appraiser.

THE STUDY—RESEARCH HYPOTHESES

The purpose of this study is to determine if bias is exhibited by court-appointed special masters in eminent domain cases. This study uses actual Georgia court cases, most of which were partial takings.

RESEARCH QUESTIONS:

1. Are pre-trial arbitration ("special master") awards for the property taken far more likely to agree or be near the number offered by the condemnor appraisal, indicating persistent bias from the appointed special masters?
2. Are appraisals for condemning authorities consistently and repeatedly far below appraisals for property owners? *Test statistic:* Compare mean of condemnor appraisals to mean of appraisals for owners.
3. Are special master awards statistically similar to condemnor appraisal amounts?
4. Are jury awards or pre-trial settlements more likely to be near the appraisal amount offered by the owner's appraiser and differ significantly from the award of the special master?

RESULTS (TEST STATISTICS): N = 16

The statistical tests employed were a difference in means test, t-test, and paired-samples analysis. The statistics indicate a strong correlation between the condemnor appraisal and the special master award (73.3 percent). All tests showed a decided statistical difference between both the condemnor appraisal and the special master award when compared to the final award received by the property owner, whether by jury or settlement.

MEAN	STANDARD	DEVIATION
Condemnor appraisal	$32,722	$40,459
Special master award	$51,304	$14,328
Final award to owner	$177,758	$275,427

The average final award to the property owner was $177,758 compared to the average special master award of $51,304. The average final settlement amount was 3.4 times the amount of the special master award and 5.4 times the amount of the condemnor appraiser. In 57 percent of the cases in this sample, the special master award either was identical to the condemnor appraisal amount or within 5 percent.

The results indicate that:

- The special master award is statistically consistent with the appraisal for the condemnor, and statistically different from the final award from a jury or settlement.
- The condemnor appraisal, when compared either with the award, with property appraisal with damages, or with property-taken only, does consistently, significantly vary (t values of -3.9, -2.6, -3.5; p-values of .000, .012, .001).
- When reviewing the data, condemnor appraisals are consistently lower than either the property owner appraisal or the final award.
- The property-taken appraisal amount is statistically comparable to the final award (t value of .768, p-value: .448).
- None of the condemnor appraisals gave any value for consequential damages to the remaining property, even though virtually all of the cases were partial takings.

CONCLUSION AND FUTURE RESEARCH

This study supports the premise that special master bias exists in eminent domain cases. The cause is likely because of client pressure from the condemnor, since in Georgia the special master is, in effect, appointed by the condemnor. Prior studies (Kinnard et al.; Levy and

Schuck; Wolverton and Gallimore) all found that client feedback influenced the appraisal result. Wolverton (2000) noted that pressure on the appraiser increased when the appraiser performed a volume of work for one entity, which is often the case for appraisers representing condemnors. Wolverton also found that client pressure was lessened when appraisers worked for multiple clients, which is more often the case for appraisers representing property owners. None of the cases in this study showed any finding of consequential damages by the condemnor appraiser, even though virtually all the cases were partial takings. This is consistent with the moral hazard work of Gwin and Maxam (2002), who found that appraisers can be influenced by the offer of more work in the future.

The problem is threefold. First, moral hazard is present in the system of appointing special masters. In any state in which the condemnor has influence in the appointment of the special master, the special masters have an incentive to systematically value properties lower, thus raising the probability that they will be favorably considered for future assignments by the condemnor, who benefits from low awards. Second, the system of appeal is limited to accuracy of value, and if statutory or case law provides latitude in individual cases to anything justified by the evidence, then only the individual award is in question, not the special master's tendencies and patterns. It should be noted that this scope of review does not necessarily encourage systematically low or high results. Awards should vary randomly, not systematically. This limitation correctly shields the special master from attack if the award is justified by the evidence. However, no avenue for exploring systematic bias is available within the special master system in states with this limitation. Third, there is no monitoring system to ensure that awards are fair in the aggregate, not just in the individual case.

The solution cannot be found, at least in Georgia and states with similar laws, by resort to the judicial system. Legislative intervention is necessary. A revised statute could address the moral hazard issue inherent in the nomination of special masters. Educational intervention could take the form of training and certification for special masters, along the lines of arbitrators or other practice specialties. A monitoring system could be set up, randomly pulling cases and subjecting them to a similar analysis as used in this paper. Only then will condemnees have the benefit of protection against both individual and systematic bias in special master awards.

This study is limited by a small database from one locality, hence generalization is cautioned. Future research could focus on a larger data base from a different locale to see if the results are replicable. Other research opportunities lie in the area of performing this type of analysis on other types of arbitration panels. Future research could also study bias on behalf of appraisals for property owners, particularly in the area of assessing consequential damages. ■

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Real Estate Conveyances from Livery of Seisin to Electronic Transfer:

Real Estate Transactions Enter the Digital/Electronic World

BY JOHN A. GOSE, CRE

THE AGE OF "STICKS AND STONES:" MANUAL TRANSFER

Prior to 1500, most real estate conveyances[1] were by livery of seisin: "livery" meaning delivery and "seisin" meaning possession. Ownership followed possession at that time: "Historically, the doctrine of **livery of seisin** referred to the ceremony by which the transferor conveyed property to the recipient. To successfully convey a fee interest in the property, the doctrine requires the physical transfer of a piece of ground, twig, key, or other symbol on the premises in the presence of witnesses."[2]

Livery of seisin could refer to either:

- *livery of deed*, whereby the parties actually went onto the land, and the transferor symbolically delivered possession of the land by handing over a twig or a clump of earth to the recipient; or
- *livery of law,* whereby the parties went within sight of the land and the transferor telling the recipient that possession was being given, followed by the recipient entering the land."[3]

Beginning in the early 1500s, the method of conveyance began to change. Through pressure from Henry VIII, and aided by the common law lawyers, "It came about that in the Parliament of 1535–1536, perhaps the most significant piece of real property legislation in the history of English Law—namely, The Statute of Uses—was enacted."[4] The statute converted all English equitable estates created through "use" into legal estates. This was followed by the Statute of Wills[5] in 1540, which allowed the testamentary disposition of most English land. After the statute of uses, a simple bargain and sale deed would effectively transfer the beneficial interest to the grantee, and by the mandate of the statute of uses, the legal interest would follow. Hence, deeds replaced livery of seisin.[6]

With the passage of the statute of frauds in 1677,[7] writing was necessary to transfer a freehold interest in land and real estate. The effect of these three statutes was to solidify written transfers. Real estate closing transactions entered the era of parchment and paper.

II. THE WRITTEN ERA: 450-PLUS YEARS OF PARCHMENT AND PAPER

Since the mid-1500s, the deed has been the normal form of conveyance. Parchment gave way to paper, but

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the written deed was now the norm. Property may be conveyed by devise or will,[8] court order, or adverse possession, but by far the most prevalent method is by a written deed.

From the inception, the United States adopted English common law. The history of the title to various state lands is as varied as the states.[9] The real estate conveyance laws are usually governed by the state where the real estate is located. Thus, real estate conveyances are governed by 50 separate state laws, together with Native American laws and federal laws. Diversity is the word. All of these jurisdictions recognize the written deed. Each state has developed its own real estate law concerning conveyancing and deeds. One need only look at the index to deeds in the *American Law of Property*[10] to see the myriad of subjects covered by state law on deeds. Every facet of conveyancing law is covered from acknowledgments through warranties and words of conveyance. Indeed, the form of deed is specifically a state law creation. Most states have the basic form of deed from the release or quit claim deed[11] to the warranty deed. The implications, covenants and warranties from the various deed forms are again state dependent.

The effect of the various state recording statutes varies with the state. The recording statutes are varied and "Distinguishing among the types of recording acts can be tricky…"[12]

One is ill-advised to generalize about deeds. They are state-specific. Over the life of the specific state, the state courts have developed the law peculiar to that state. Though one might see certain similarities in state interpretations, the law of conveyancing remains particularly state-dependent.

The states have developed their own interpretations of deeds, and it is presumed that those interpretations will carry over to electronic instruments in the next cycle of conveyancing. It would be foolish to throw out the years of interpretation of deeds simply because the document has been changed from paper to a digital electronic form, which is denominated an electronic record.[13] Changing the document to digital form without changing the substance of the document should not change the legal interpretation of the electronic record.

III. THE DIGITAL/ELECTRONIC ERA

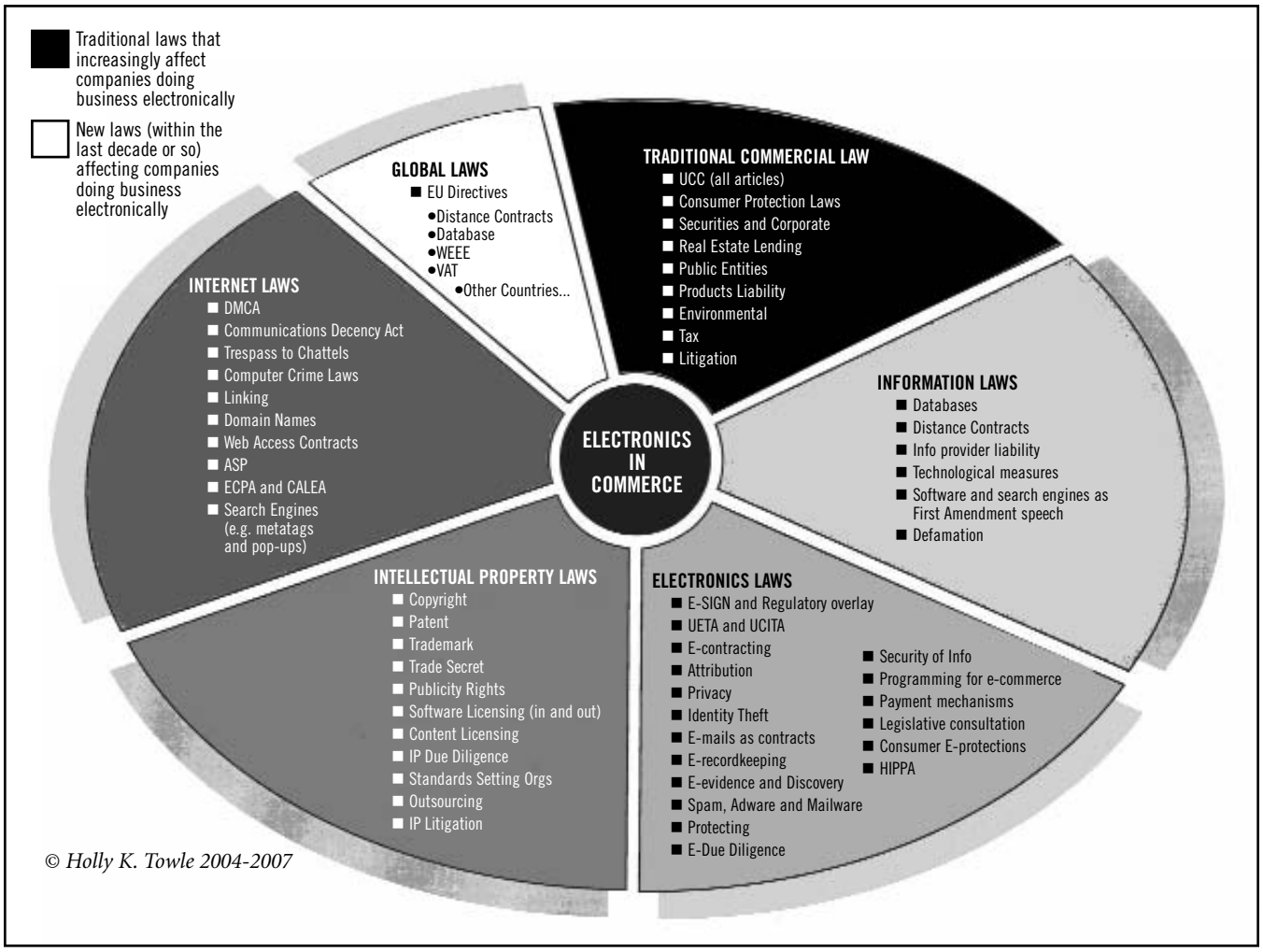
The ability to reduce records and documents to digital form and transfer them electronically, when coupled with the Internet, is transforming the commercial world in general, including the real estate world.[14] This new, electronic tide is washing over every aspect of our lives.[15]

Feeding this electronic tide is a myriad of new laws in the rivers of commerce. This is reflected in the E-Merging Commerce Wheel, which indicates the types of laws that are changing and overlaying the commercial world—including electronics law, global laws, Internet laws, information laws and intellectual property laws, all of which combine to transform the commercial world.[16]

In the real estate world, one other very important river must be added to the digital and Internet tide—electronic access to Public Records.[17] All real estate documents are now available online in digital form. No longer are the facts surrounding real estate sales within the sole purview of those who had the time and resources to venture to the recorder's office. The information is available to anyone with a computer and access to the Internet. In Washington, electronic access to public records is mandated by statute (RCW 43.105, 250, 270) and is creating a whole new electronic world. In most states, public records are open and easily accessible. However, in some states, real property records, including sales prices, are not available to the public.[18] Though this limitation is often justified on privacy grounds,[19] in the real world, the purpose of this lack of transparency of public records appears to be to limit the knowledge of real estate value to those with access to Multiple Listing Services (MLS). The end result is to deprive the consumer of knowledge of sales prices and hence the value of real property. The public consequences of sales price nondisclosure is property tax inequities, tax revenue leakage and administrative inefficiencies.[20] This all leads to a push for more transparency, so that real estate records are available to the consumer.

Couple this digital/electronic world with the Internet[21] and the real estate world is being rapidly reshaped.[22] As one appraiser stated, "I no longer spend hours driving to city and county offices to acquire the information I need… I sit in my office and let it come to me. It has changed everything I do in my assignments. The Internet

E-Merging Commerce Wheel



is our lifeline to our clients and our data."[23]

All of this has led to a plethora of sites dealing with various aspects of residential property.[24] These sites and many more are available on the Internet. One need only "Google" residential real estate or home value to see the number of websites available. Most of these sites target one segment of the industry—buyer, seller, real estate broker,[25] appraiser, and mortgage broker. One of these sites, *Zillow.com*, seems to be the most controversial, and so it is well to see what it attempts to do and why it is controversial.

Zillow.com attempts to consolidate all residential real estate information and is designed to be used by all members of the industry, including the consumer. It modestly bills itself as "Your Edge in Real Estate." Zillow is free and anonymous. Given its high profile[26] and ready accessibility on the Internet, some members of the real estate industry felt threatened by this site.

Zillow was launched in February 2006 by Rich Barton and Loyd Frink, the creators of Expedia. They were prescient and recognized that a house purchase was probably the largest single expenditure most Americans make. They also recognized that there is no independent source of residential data for the consumer. Finally, they well recognized the digital revolution and the Internet and that these tools could and would be used by the consumer. It clocked 2.8 million visitors to its site in the first three weeks of operation.[27] Currently, it is surpassing four million unique visitors a month.[28]

The Zillow site, though aimed at the consumer, has places

for all of the players in the real estate world—buyers, sellers, owners and professionals, including real estate professionals, appraisers and lenders.

One of the challenges Zillow faces in attempting to consolidate all residential real estate information in the United States is diversity. This country has 50 states and approximately 320 recording jurisdictions. There is no uniformity. The laws on what is a public record and what is not vary among the jurisdictions. Some jurisdictions provide public access to the sales tax records, others do not.[29] Some jurisdictions provide a short description of the physical characteristics of the property—i.e., number of bedrooms and baths, square footage, etc.; others do not. Likewise, the availability of data from MLS and title companies is just as varied. In addition, some states attempt to prevent commercial use of public records.[30]

Based on the public records and the other sources, Zillow provides what it calls "Zestimates" of the property. These Zestimates are not appraisals; rather they are Zillow's estimates of the market value of the residence based on the data it has acquired and its Automated Valuation Model (AVM). In addition, consumers can access satellite and aerial pictures for both a specific residence and the neighborhood.

Making this type of consolidated information on residential property available to consumers, though less than perfect, seems to have created fear and hostility among real estate professionals, as change often does. It generated ludibrious comments about Zillow and the accuracy of its Zestimates and AVM.[31] This, despite the fact that Zillow expressly states that its Zestimates are not an appraisal[32] and that the AVM concept was initially conceived and developed by appraisers using logic that is conventionally used by appraisers and has been around for more than a decade.[33]

These attempts to hold the electronic tide is about as effective as King Canute's efforts to hold back the tide in the 11th century. The electronic tide simply cannot be held back. The electronic world and the Internet are now part of our everyday life. Consumers don't read real estate publications; they go to the Internet, as evidenced by the traffic on the Zillow site and other real estate sites.

Consumers are going online to check homes and neighborhoods.[34] Typical is a buyer from Cape Cod who was transferring to Seattle, mentioned in a recent issue of *Horizon*, an airline magazine.[35] He looked at more than 100 homes on the Internet. He was particularly fond of the process because it enabled him to check the neighborhood. He narrowed his search, contacted his real estate agent, and when he arrived in Seattle, because he had done his research online, the purchase went very smoothly. If the purchaser follows that path, the real estate professionals, to be prepared, must also be informed that online sites are a good source for keeping up with the consumer. These sites are not to be feared.

"As a Realtor today, you'd be foolish if you didn't look up a home on Zillow before you went to see it,"[36] the *Horizon* article states. Or, as stated in the *Washington Realtor News*,[37] "Whatever your take on these sites may be, you cannot ignore them. Their popularity is booming and your clients are most likely using them."

Not only are real estate professionals using online resources so they can be prepared to deal with their prospective clients, they are using these resources to enhance their listings. For example, on Nov. 7, 2007, Zillow announced a partnership with the real estate brokerage company RE/MAX Allegiance.

In the real estate world, not only have the electronic sources provided new, more timely data, but they are indicative of the push to reduce all documents to digital form. Currently, most real estate transaction documents are in electronic form and are exchanged and modified in that form over the Internet. There are some risks. One is the risk of forgery, which exists as well in the paper world. However, since the digital electronic world is "new," there seems to be more of a fear that forgery will be easier. The second major risk is the adequacy of the technical programs to create the documents and to record them. This second risk is one that will surely diminish as electronic documentation gains use.

These risks can be reduced or eliminated.[38] Thus, in commercial real estate closings, paper exchanges are rapidly becoming a thing of the past. Negotiations using electronic documents and the Internet are faster and more accurate, and hence easier than exchanging paper drafts. True, currently, the final document is usually paper and signed manually. However, the first paperless closing

was completed with much fanfare several years ago. The Milwaukee County Register of Deeds, on July 8, 2003, recorded the first electronic recording of documents via the Internet. As of the end of August 2007, ten percent of document in that office were received electronically.[39] Since then, the number of paperless closings is in the thousands and continues to increase.[40] As a practical matter, all of the major title companies have units dedicated to electronic closings. Paper won't completely disappear, but like the livery of seisin, it will fade and gradually be replaced by the documentation of the new electronic era.

The final step in this electronic tidal wave of electronic documents, electronic signatures and electronic closings will be electronic recording. The process from beginning through recording will all be done electronically.

Initially, some recorders opposed electronic recording either because they did not have adequate software to do so or because the recorder simply took a Luddite stance and opposed the introduction of new technology into the workplace. Many software companies are working on the problem of the technical software,[41] and the rapidly diminishing number of Luddites will find themselves overwhelmed by the tidal wave of electronics. There are many advantages to this paperless real estate world, which culminates in electronic recording.[42]

Electronic recording does more than simply eliminate paper. It automates document examination, fee collection, image retention and data processing. . . Electronic recording results in greater efficiency and better use of existing resources. Productivity increases by minimizing time requirements, reducing costs and increasing document acceptance and accuracy. . . Title companies, financial institutions, law firms and other businesses involved in real estate transactions recognize great benefits from electronic recording. Counties reduce the manual processing effort associated with paper processing from days and weeks to just minutes. The electronic process reduces risks for title companies and reduces post-closing costs for lenders.[43]

Coupled with these advantages is strong support from county government, mortgage lenders, title companies, task forces, standard setting organizations, technology providers and system vendors.[44]

All of this has led to pressure to secure statutory authority to implement electronic recording. Congress responded on the federal level, and validated "electronic signatures" in a new act (E-Sign).[45] As a federal law, it applied to each of the states, but in a rather complex manner and with several exceptions to preemption and coverage.[46] The act did not, however, require the various recorders to accept electronic documents for recording. Further, some state statutes either assume or require a paper world. Additional legislation was necessary to provide statutory authorization for recorders to record electronic documents.[47]

To solve the authorization problem for county recorders, the National Commissioners on State Laws (NCCUSL) proposed the Uniform Electronic Transactions Act (UETA) for adoption by the states to facilitate electronic recording. As of the beginning of 2008, 46 states, the District of Columbia and the U.S. Virgin Islands have enacted UETA.[48] Only Georgia, Illinois, New York and Washington have not, but these states do have laws recognizing electronic signatures. Fidelity National Financial has opined that counties in states that have enacted sections 17, 18, and 19 of UETA intact may accept electronic documents without further legislation.[49]

UETA did not solve all of the problems, however, because some states did not adopt UETA, and some of those states that did adopt UETA did not adopt sections 17, 18, and 19.

In those states, there was a serious legal question about whether recorders could, without additional legislation, record electronic documents.

Despite doubts on whether further legislation was necessary on the state level in all states, NCCUSL, with input from the Property Records Industry Association (PRIA) drafted the Uniform Real Property Electronic Recording Act (URPERA). "URPERA was drafted to remove any doubt that, in the context of land records, county and other recording officials have the authority, based on UETA, to receive record and retrieve documents and information in electronic form.[50] By early 2008, URPERA has been adopted by 14 states and the District of Columbia.[51] In addition, a number of states have adopted specific electronic recording acts.[52]

There is no doubt that this electronic tidal wave is the wave

of the future. The practical and legal problems are being addressed and solved. Residential homes and commercial projects are closing electronically on the Internet.

While the quest continues for a uniform act throughout the United States, the more "forward" states are moving ahead with special legislation that allows for e-recording. PRIA maintains a list of counties that have implemented some form of e-recording on their websites.[53] These recorders are onboard and have solved the technology problems. For the balance of recorders, it is not a matter of *if* we e-record, but *when*.

The real estate conveyancing world has experienced more changes during the past 15 years than in the prior 300 years. After 450-plus years, the real estate conveyancing world is going through a major change brought on by a new electronic world—a world that could not be imagined by the creators of the parchment, paper world. Will this electronic conveyancing world last another 400 years, or will it be replaced by something beyond our imagination?

In their excellent historical overview of developments in recording of real property documents, including recent technological developments and legislation such as UETA, ESIGN and URPERA, David Ewan and Mark Ladd build a strong case for the fact that electronic recording of real documents is not, as they put it, "a 'wouldn't that be nice someday' concept."[54] Electronic recording has passed the decade milestone in the leading-edge jurisdictions that pioneered the practice. With rapid advances in the Internet and electronic technology, ten years represents a substantial period, making digital recording a proven, mature solution. Although it may appear, because the greater percentage of recording is still carried out via traditional paper, that we are still in the paper era, electronic recording is gaining momentum because it is more accurate, reduces costs and dramatically reduces turnaround time on time-sensitive transactions.[55] We have probably already reached the tipping point in the transition from paper to electronic recording of real estate documents. With the exception of probate or court orders, for more than a thousand years, conveyance of real property was accomplished by the manual delivery of real property or the manual delivery of a written deed. This is changing. Real property can now be conveyed by electronic transfer. This does not involve a manual transfer of a tangible object. In a few scant years we will be looking back at the practice of applying ink to paper as a thing of our past, just as by the 17th century, people looked back at the practice of livery of seisin as a relic of a bygone era. ■

ENDNOTES

1. "The word *conveyance* is generally used to denote any transfer or any method of transfer of title to real estate, whether by deed or otherwise and whether legal or equitable. *American Law of Property,* Vol. III, §12.35, p. 235.
2. Pollock & Maitland, *History of English Law*, Vol. II (2nd edition, 1898) § 2 Seisin, p. 29.
3. *Wikipedia,* Livery of Seisin.
4. Casner, *American Law of Property*, Vol. 1 § 1.24, p. 33.
5. 27 Hen. VIII Ch. 10.
6. Professor Charles Donahue, Jr., www.law.harvard.edu/library/collections/special/exhibitions/history_in_deed/.
7. 29 Car. II. C. 3.
8. *Thompson on Real Property*, Vol. 5 (1929).
9. "Origin and Title to Public Lands of the United States," *Thompson on Real Property* (1978), Vol. 5B § 2710.
10. *American Law of Property*, Vol. VII, p. 656–669.
11. *Lawler & Lawler Historical Introduction to the Law of Real Property*, Sec. 73.
12. Nelson & Whitman, *Real Estate Transfer, Finance and Development* (6th ed.), p. 203.
13. Electronic Signatures in Global and National Commerce Act, 15 USC 7001, Sec. 101.
14. Stephan Swanepoel, "How the Internet is Reshaping Real Estate," *RISMedia's Real Estate,* May 2007, p. 77.
15. "A new system of communication does more than make us more knowledgeable or our institutions more efficient. It also leads to the creation of new relationships and more importantly, changes attitudes, expectations, and ways of thinking about the law." M. Ethan Katsh, *The Electronic Media and the Transformation of the Law* (1989), p. 22.
16. Nimmer & Towle, *The Law of Electronic Commercial Transactions*, Chapter 1.01, Figure 1.1 (A.S. Pratte & Sons, 2003–2008). *Also see* Arias, "The Law of Electronic Contracts in the United States," *IBLS Internet Law–News Portal*, November 21, 2007.
17. RCW 43.105, Washington State.

18. This is not always the case. Alaska, Idaho, Kansas, Louisiana, Mississippi, Missouri (some counties), Montana, New Mexico, North Dakota, Texas, Utah and Wyoming are all non-disclosure states.

19. Nimmer & Towle, "On Line Informational Privacy and Data Protection," *The Law of Electronic Commercial Transaction*, Chapter 12. The Public Records Industry Association (PRIA) is well aware of the privacy issues and is developing rules to maintain the electronic public access and protect the individual's privacy.

20. Berrens & McKee, "What Price Nondisclosure? The Effect of Nondisclosure of Real Estate Prices," *Social Science Quarterly*, Vol. 85, No. 2 (June 2004), p. 509.

21. "The Internet is bringing about the greatest change in business since the industrial revolution…." Britt, "World Wide Window to Better Business," *Valuation*, 3rd Quarter 2007, p. 15; "Real Estate is the final frontier of e-commerce…." Glenn Keleman as quoted in *Horizon Air*, July 2007, p. R25.

22. "How the Internet Is Reshaping Real Estate," *RISMedia's Real Estate*, May 2007, p. 77.

23. Sheryl Andrus, *Valuation*, 1st Quarter 2007, p. 24.

24. Examples include: ActiveRain, BuyerHunt, Cyberhomes (by FidelityNational Financial), appraisal.com, ebay.com/realestate, HomeGain, Move.com (part of realtor.com), Real estate.com (a service of LendingTree), RealEstateABC, ReMax.com, Reply.com, Trulia, Viewr, Yahoo (realestate.yahoo.com), *Zillow.com*, and ZipRealty.com.

25. "ActiveRain … is a website exclusively for the real estate industry. It is interactive and allows real estate agents to connect not only with other agent but also with clients…." *Washington Realtor News*, June 2007, p. 7.

26. Jeffrey M. O'Brien, "What Is Your House Worth?" *Fortune*, Feb. 19, 2007, p. 56.

27. *Valuations*, Vol. 11, No. 2, p. 12.

28. *RISMedia's Real Estate*, October 2007, p. 128.

29. Fn 12, *supra*. The nondisclosure states or counties can be divided into those that do not report the sales price to the recorders office and those who keep the sales record, but do not allow the records to be distributed to the public.

30. To see Zillow's most recent public record data coverage, go to *www.zillow.com/howto/DataCoverageZestimateAccuracy.htm*. On this page is a current "Data Coverage and Zestimate Accuracy Table," offering data for the top metro areas, by states and counties, and nationally overall.

31. Blanche Evans, "Agent News and Advice," *Realty Times*, Aug. 31, 2006.

32. Zillow's data is transparent. Further, there is a provision for an owner to change a property description with the resultant change of the Zestimate.

33. "Friend or Foe: Commandeering AVMs for Your Use," *Valuation*, 2nd Quarter 2007, p. 9.

34. Shelly Banjo, "Doing Your Home Work," *Wall Street Journal*, Dec. 11, 2007, p. R6.

35. Eric Lucas, "Real Estate Makes the Most of Modern Technology," *Horizon Air*, July 2007, p. R21.

36. Ibid.

37. *Washington Realtor News*, June 2007, p. 20.

38. William Freivogel, "Technology & the Lawyers Duty of Confidentiality," *The Practical Real Estate Lawyer*, Vol. 23, No. 6, November 2007, p. 9.

39. Milwaukee County, www.county.Milwaukee.gov/electronicrecording23346htm.

40. Cutter, *ALTA News*, June 2, 2007.

41. Hougaard, *ALTA News*, October 2007.

42. See the URL www.county.milwaukee.gov/ElectronicRecording23346.htm.

43. Milwaukee County, Ibid.

44. Hougaard, "Electronic Document Recording: The Time Is Now," *Title News* (an American Land Title Publication), October 6, 2007; *also see* Towle, "E-Signatures— Basics of the U.S. Structure," 38 *Houston Law Review* (2001–2002), pp. 921–1002.

45. Electronic Signatures in Global and National Commerce Act (E-SIGN), 15 USC 7001 (2000). Note that India has adopted a similar law, the Information Technology Act 2000 (CA Rules 2000).

46. Nimmer & Towle, *The Law of Electronic Transactions*, Chapter 4.

47. Whitman, "Are We There Yet? The Case for a Uniform Electronic Recording Act," 24 Western *New England Law Review* 245, 2002.

48. Uniform Electronic Transactions Act (UETA), website maintained by the National Conference of Commissioners of Uniform State Laws, www.ncsl.org/programs/lis/CIP/ueta-statutes.htm.

49. Footnote 46, *supra*.

50. "PRIA Position Statement," Uniform Real Property Electronic Recording Act, p. 2. Adopted by the PRIA Board on May 11, 2005. The act creates legislation authorizing land records officials to begin accepting records in electronic form, storing electronic records and setting up a system for retrieving these land records.

51. Uniform Real Property Recording Act (URPERA), website maintained by the National Conference of Commissioners on Uniform State Laws, www.electronicrecording.org. The 15 jurisdictions that have enacted URPERA as of the writing of this article are Arizona, Arkansas, Delaware, District of Columbia, Florida, Idaho, Illinois, Kansas, Nevada, New Mexico, North Carolina, Tennessee, Texas, Virginia and Wisconsin.

52. States that have adopted specific electronic recording acts include Texas, Massachusetts, Missouri, Colorado, and Florida. *See* Scott Wyman, "Broward Home Buyers Can Now Seal Their Deals on the Internet," *South Florida Sun-Sentinel*.

Commercial Real Estate Loss Expectation and CMBS/CMBX Prices

BY JUN CHEN, Ph.D., AND JON SOUTHARD

WHILE PRICES HAVE BEEN SLOW TO CHANGE IN THE COMMERCIAL real estate equity market, the commercial real estate debt markets have been driven by ever increasing costs and decreased availability of mortgages. The origin of this pricing change lies within the Commercial Mortgage-Backed Securities (CMBS) market. By some estimates, the CMBS market accounted for roughly half of the new commercial mortgage originations in 2006 and 2007, highlighting the predominant influence of the public debt market on the liquidity and the pricing of commercial real estate today.

The broader re-pricing of risk that started with the subprime mortgage crisis has eventually led to a dramatic widening of the credit risk spreads of CMBS bonds across all rating categories beginning in the fall of 2007. In fact, the spreads became so wide during the first quarter of 2008 as to make it a money-losing business to originate and securitize commercial mortgages through the public market. Only three new CMBS deals came to the market in the first quarter of 2008, with a total volume of just above $5 billion, a sharp contrast to about $60 billion CMBS issuance during the same period last year. Such a drastic downshift from the CMBS market is effectively holding up the overall commercial mortgage market by raising the risk premiums (spreads) as well as reducing the availability of capital for commercial real estate debt financing.

One of the causes of these trends has been the movement of a set of derivatives that provide insurance against defaults—the CMBX. Each of the CMBX indices is made up of 25 underlying CMBS bonds with the same credit ratings. The parties that believe in deteriorating credit performance of the commercial real estate collateral can bid up the default protection premiums through trading CMBX indices, and vice versa. Since the inception of the CMBX indices just about two years ago, investors including hedge funds and opportunistic traders have been able to take highly leveraged bets on the underlying real estate market conditions without holding the actual bonds. Most market participants have expressed concern that those "synthetic" bets may have led to increased

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volatility in the pricing of underlying bonds as some of these bets would undoubtedly attempt to profit from the short-term market volatility rather than taking a traditional long-term perspective. As explained in this article, the prices on these derivatives as well as prices in the CMBS market have reflected levels that are far out of line with what any likely future income stream of the underlying mortgages would suggest.

A thorough economic analysis suggests that the capital markets have overreacted to the likely uptick in commercial mortgage defaults and losses over the next few years. Through an analysis using CBRE/Torto Wheaton Research's commercial real estate market forecasts and Moody's Commercial Mortgage Metrics (CMM), we find that the CMBX/CMBS spreads in the beginning of 2008 have substantially overestimated the default and loss rates, exceeding the realistic forecasts by as much as three times. CMBX tranches rated "A" and above are particularly undervalued from a credit performance perspective. In other words, looking at real estate market fundamentals, we view the widening of CMBX/CMBS spreads as unjustified. We strongly recommend that capital market participants carefully consider both the challenges and the opportunities in today's turbulent marketplace before jumping to the conclusion that a commercial real estate market meltdown is inevitable.

While we agree there is little doubt that the loosened underwriting standards in the commercial mortgage market over the last few years will contribute to higher default and loss rates for those recent vintages, we also conclude that the cumulative ten-year loss rate for the entire CMBS conduit market is a manageable 2.53 percent for our baseline scenario. Our analysis further shows that, while the 2006 and 2007 vintages are likely to experience more than twice the losses of the 2002 and 2003 vintages, the losses in these worse vintages should not affect the principal repayments of the investment-grade CMBS tranches rated "A" and above, even though some of the recent BBB-/BBB tranches will be under stress. More specifically, the aggregated future collateral losses for the CMBX deals are forecast to be 2.5 percent, 3.6 percent, 3.3 percent, and 3.7 percent for CMBX.1, CMBX.2, CMBX.3 and CMBX.4, respectively. All these baseline analysis loss numbers are significantly below the double-digit loss projections built into the current CMBX spreads. In fact, in a severe financial stress scenario that has a mere 5 percent chance of happening, the highest ten-year loss rate is 8.5 percent for CMBX.4, still beneath what the current CMBX pricing is calling for.

COMMERCIAL REAL ESTATE OPERATES IN A DIFFERENT MARKET THAN FOR-SALE RESIDENTIAL REAL ESTATE

The U.S. economy has entered 2008 with loads of uncertainty, magnified by ever-increasing stress and volatility in the financial markets. The continued write-downs of housing-related asset-backed securities on the balance sheets of many global financial institutions are the biggest driver of uncertainty in the financial markets, as the breadth and magnitude of such write-downs in the future are still unknown.

The write-downs reflect downward mark-to-market revaluation of a wide range of financial assets, including the most talked about subprime mortgage-backed securities (MBS). The market value of the broader asset-backed financial instruments has dropped significantly since the beginning of 2007, driven by the worse-than-expected credit performance of the underlying collateral—subprime residential mortgages first and foremost, which in turn have been the victim of house price bubbles and the lax underwriting standards of eager lenders nationwide during the bubble years. The spiking of the default rates of subprime mortgages not only requires much larger loss reserves for financial institutions holding these mortgages and their derivatives, it also leads to significantly increased risk premiums and, consequently, much lower market prices for any financial instruments associated with subprime mortgages and their siblings. The initial loss estimate for the residential mortgage sector was around $100 billion; as the housing market has continued a downward spiral without any credible indication of the bottom arriving, the estimate has since been revised up to around $200 billion.

The problems appear so severe as to have sent waves of panic through the financial markets in the last few months, and to have stirred fears of economy-wide recession. Because the problems did come from actual weakness in parts of the economy (especially the housing market, which is indeed experiencing its first-ever nationwide price decline since such statistics became available 40 years ago from the National Association of REALTORS®), it seems understandable and necessary for market players to ask the question about where the next

big trouble spot could be—particularly hedge funds, which have profited from having foreseen the housing downturn. The growing concern has now begun to focus on the commercial real estate market, commercial mortgages and related CMBS/CMBX securities. It was, after all, commercial real estate that led us into the S&L crisis and played an important role in dragging the overall economy into a recession in the early 1990s.

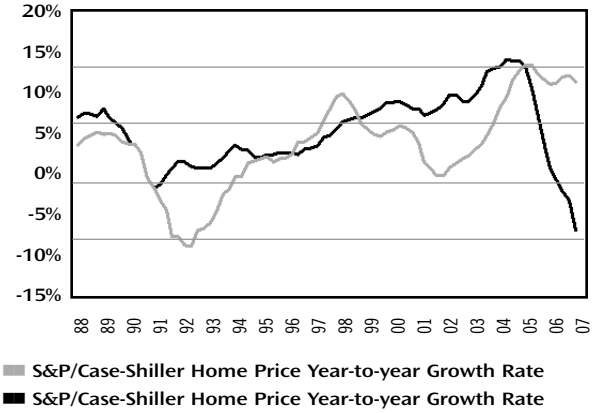
Before delving into the details of our analysis to address the expected default and loss rates for the CMBS/CMBX market, we would like first to emphasize that, in general, commercial real estate operates in a totally different market segment than its residential counterpart. Commercial real estate is neither a substitute of nor a competitor to the housing market. Not only do the major players in this field tend to be well-capitalized institutions or sophisticated, wealthy families, but the demand drivers are totally different and the supply response has its unique characteristics. In essence, commercial real estate is a highly heterogeneous, capital-intensive, investment-oriented asset class whose value is primarily derived from steady income flows. In contrast, for-sale residential real estate is a largely homogeneous good, the primary objective of which is consumption. In fact, the last time for-consumption houses emerged as an investment asset, we saw the collapse of the market later on, as we are witnessing today. While there has been some correlation between commercial and residential real estate, as both are certainly driven to some extent by macro-economic forces, there exists insufficient intrinsic automatic correlation between the two markets to support the practice of simply deducing commercial real estate market conditions and expectations from what we observe in the housing market.

The chart below (Figure 1) highlights the weak correlation between commercial property values and home values over the past twenty years. It should be apparent that the two have not moved in tandem and that no clear correlation exists. In fact, the correlation of growth rates between the two indices became negative (-0.22) in the past ten years.

To further this comparison, we can also compare the fundamentals of the two markets. One of the lessons learned in the commercial real estate bust of the 1990s was that the balance of supply and demand at the market level can have a profound effect on the security of loans, no matter the financial soundness of the owner. Supply and demand balance is easily summarized by the vacancy rate. The chart below (Figure 2) compares each of the various major property types with single-family housing by indexing their vacancy rates with their long-term averages. There is a connection between the property types in that recessions, shaded below, provoke increases in vacancy rates. But there have also been periods where, despite a strong economy, overbuilding raised vacancy rates. Most commercial real estate markets experienced this in the 1980s. Over the past five years, residential real estate experienced this pattern while commercial, perhaps having learned from past mistakes, saw exactly the opposite—a pattern of reduced vacancy rates.

Figure 1

Commercial Property Values Don't Necessarily Move in Tandem with For-Sale Housing



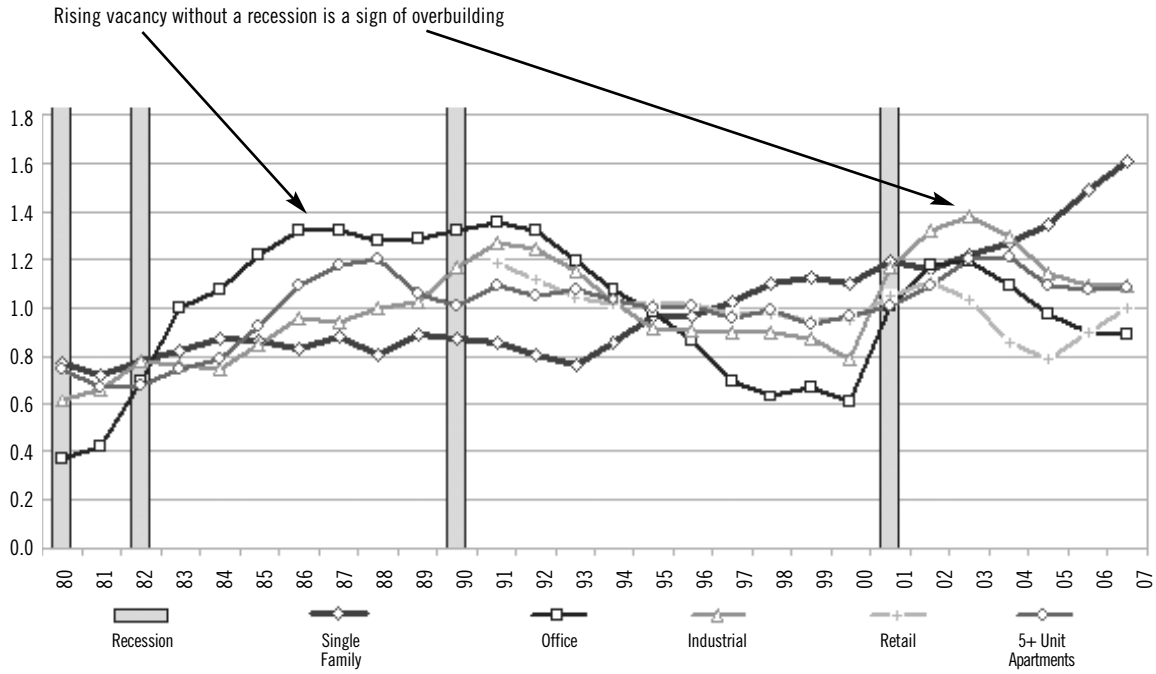
Sources: MacroMarkets, NCREIF, CBRE/Torto Wheaton Research

HISTORICAL COMMERCIAL MORTGAGE LOSS EXPERIENCE AND CURRENT MARKET ASSUMPTIONS

In this section, we compare the loss levels implied by current CMBS/CMBX spreads to the historical default and loss data. We then compare this to more detailed default and loss assumptions that incorporate information about today's markets and loan characteristics, and then move on to recommend that CMBS/CMBX instruments not be priced based on loss estimates from a doomsday scenario.

Figure 2

Vacancy Rates Indexed to Their Long-Term Averages

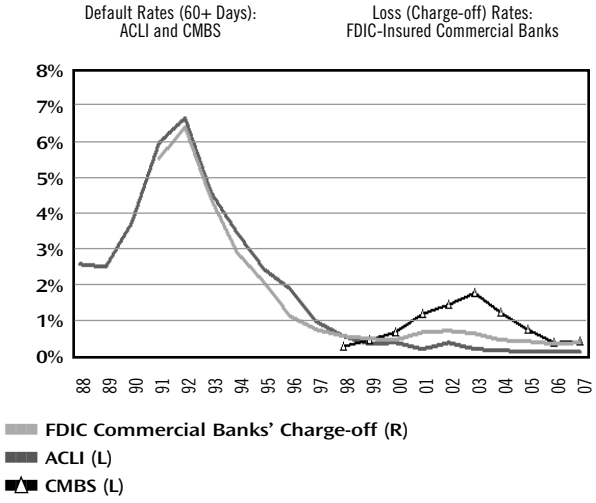


Source: CBRE/Torto Wheaton Research

To understand concerns about potential future collateral losses on commercial mortgages, it is useful to look at the history (Figure 3), which can be contrasted with the current implied loss assumptions. Including the periods with the worst commercial real estate downturn in the early 1990s, the historical data shows that, for all the commercial property types, the peak annual default rate (defined as 60 days past-due or worse), according to American Council of Life Insurers (ACLI), was 6.6 percent in 1992, and the peak loss rate (total charge-offs reported by FDIC) was 1.6 percent for all the commercial banks that were FDIC-insured.[1] While the numbers are on different scales, they fit extremely well and make perfect sense when we put them together. For instance, assuming roughly 50 percent of the default loans were liquidated and 50 percent loss severity for liquidated loans during the market stress[2], the implied peak loss rate from the ACLI default data would be: 1.7 percent (= Default Rate x Liquidation Rate x Loss Severity = 6.6 percent x 50 percent x 50 percent). Although one could argue for different liquidation rates and loss severities, we believe the implied ACLI loss rates are conservative, given

Figure 3

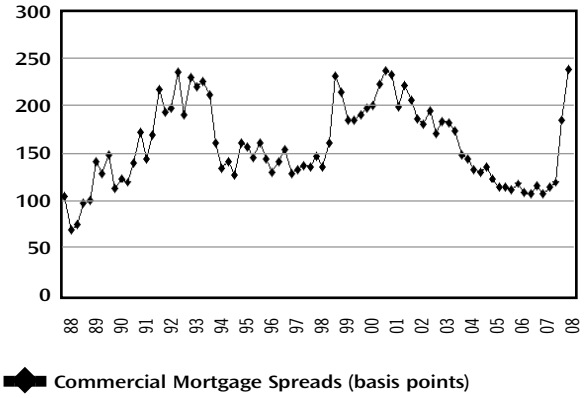
Commercial Mortgage Default and Loss Rates



Sources: ACLI, Trepp, FDIC

Figure 4

Commercial Mortgage Whole Loan Spreads over 10-Year Treasury



Source: ACLI, Trepp

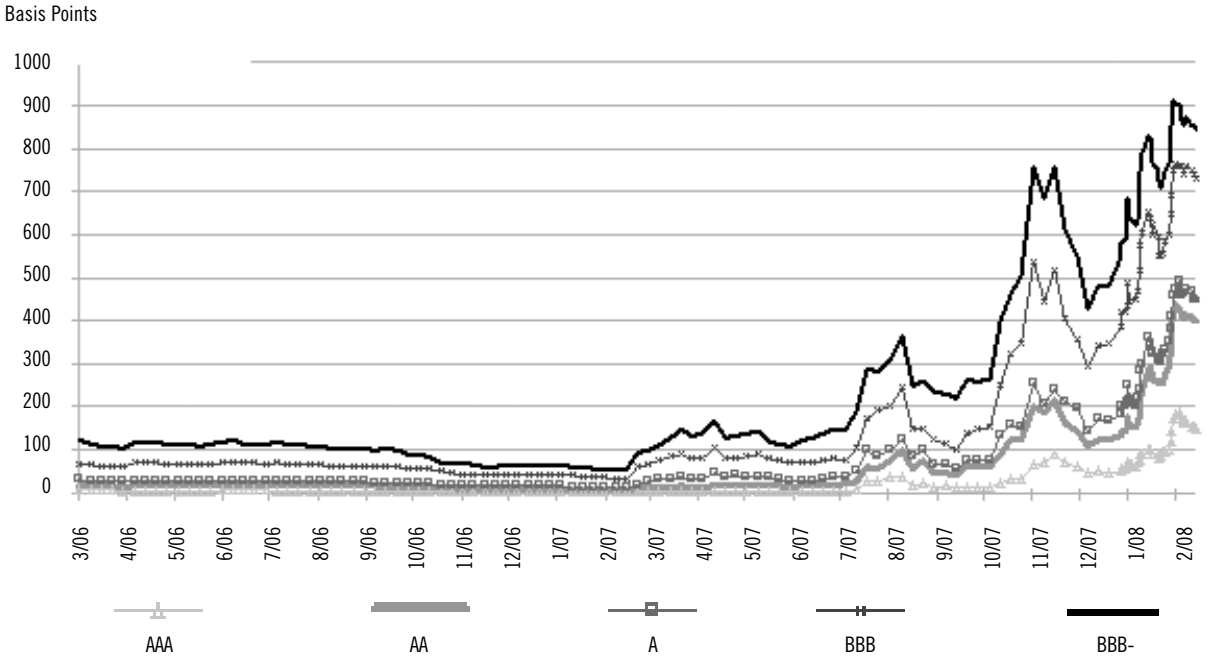
that bank loan portfolios tend to include more construction loans with less ability to retain tenants during a downturn. In other words, the combination of the data series provides a unique and valuable perspective of the "worst case" of the industry experience.

Another very important finding from Figure 3 is that, in the last ten years or so, life insurance companies have been performing better than the commercial banks, while the CMBS market has underperformed the other two market segments. Much of this difference relates to property type differences, with greater concentrations of health care loans, in particular, weighing down the CMBS market. Plus, the inability to trade out of loans as they season provides CMBS with a distinct disadvantage.

If we consider the loss experience of commercial banks as the industry benchmark—which seems very reasonable from our analysis—the average annual loss rate for all the commercial properties was 40 basis points between 1991 and 2007 with lows of less than 10 bps (2004-2007) and a high of 160 bps (1992). If the high default and loss rates

Figure 5

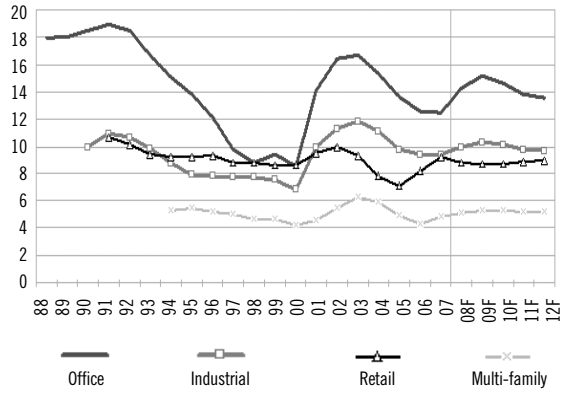
CBMX.1 Spreads



Source: Markit

Figure 6

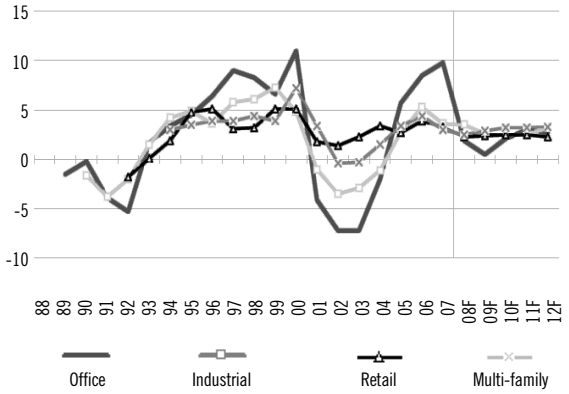
Vacancy Rates



Source: CBRE/Torto Wheaton Research

Figure 7

Rent Inflation
(Year-to-Year Percentage Changes)



Source: CBRE/Torto Wheaton Research

were sustained for a number of years, combined with the fact that, historically speaking, the CMBS market does appear to perform worse than the benchmark, then a cumulative lifetime (7–10 years for most commercial mortgages) default rate above 10 percent is possible if the commercial real estate market were to experience some of its worst years for a sustained period of time.

This double-digit loss estimate is substantiated by the most quoted longitudinal commercial mortgage default study, by Snyderman and Esaki, et al. They reported the worst lifetime default rates for the 1986 origination cohort of nearly 32 percent, implying the realized lifetime loss rate for that cohort may indeed be as high as 10 percent.[3]

Using the above thinking process and drawing quick conclusions about future credit performance from the worst loss numbers ever recorded, it is concerning that the implied losses currently priced into the CMBS and CMBX markets appear to match those doomsday loss estimates. See figures 4 and 5 on the spreads of commercial mortgage whole loans and CMBX tranches. Notice that the CMBX instruments started trading during the most benign market environment in early 2006, which makes the widening of the spreads look more alarming than they would otherwise. Moreover, there is significant evidence that in early 2008, CMBX spreads are leading the commercial mortgage whole loan spreads to widen even more.

So, after we have fully understood the implications behind today's CMBX trading and associated widened spreads, the question has now become: are the levels above reasonable? In other words, is a correct conclusion on future CMBS losses being drawn, given today's commercial real estate market environment? Our analysis of the fundamentals and past pricing of real estate suggests that the answer is a definitive "no."

While we should never unduly dismiss such a doomsday scenario, since sound risk management is all about preparing for uncertain future should anything bad happen, we do also firmly believe that most investors would do well to ask the following questions: since commercial mortgage losses are primarily driven by the deterioration in collateral performance measured by both income flows and capital values, what must happen in the overall commercial real estate market for losses of that type to occur? How likely is this worst-case scenario to happen in the next few years? What is the most likely loss, then, based on the current commercial real estate market condition and the future economic outlook?

Remember: no financial asset should be valued based on a stress scenario that has only a 5 percent chance, or, worse, a 0.1 percent chance of happening. If this were practice, the whole financial market would be malfunctioning. Sadly, our view is that parts of the financial market, including the CMBS/CMBX market, are currently in such disarray; it is our intention to offer our best

opinions about the commercial real estate market outlook and its implications for commercial mortgage defaults and losses.

COMMERCIAL REAL ESTATE MARKET OUTLOOK

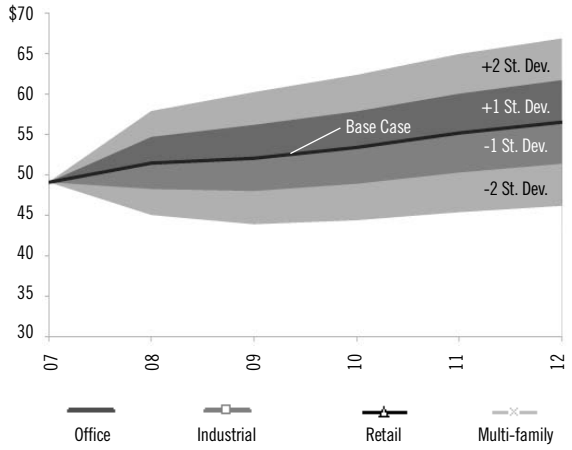
Given that the economy is certainly slowing down this year, CBRE/Torto Wheaton Research is forecasting mildly rising vacancy rates and slower rental growth rates across the major property types, nationwide, for the near future. Barring a far deeper and longer-lasting recession than most economists expect, however, the forecasted increase in vacancy rates would be mostly offset by a moderate increase in rents during 2008. Economic rent is the market average rent multiplied by the market occupancy rate, and the net effect shown by this measure will be for the space market to stay flat for the year. What is most certainly helping the space market today is the relatively constrained amount of new supply coming onto the market. Given today's vacancy rates, to push vacancy rates back to the levels of 1990 would require a catastrophic scenario in which massive layoffs caused large blocks of space to be released back into the leasing market. To achieve such rates in the office sector, the fall in demand would need to be 50 percent worse than the demand losses of 2001, which themselves were unprecedented. While 2008's space market will certainly be much slower than that of the last few years, overall, the situation is expected to turn out a lot better than in the 2001 recession.

Acknowledging the increased risk and volatility in the capital market, our baseline forecasts include increases in commercial real estate cap rates. While these forecasts are determined market by market, averages amount to roughly 70 bps, 40 bps, 40 bps and 60 bps for office, industrial, retail and multi-housing, respectively. The likely upward movement of cap rates would certainly create downward pressure on the market prices of commercial properties, though—importantly—this process will take several years. A crucial aspect, however, is how increases in income will offset these declines. In particular, the property types with long leases (retail, office and industrial) will all see increases in income, as frequently below-market rents roll up to the higher market levels. The stronger the market over the past two years, the larger this existing premium is. Furthermore, it is important to note that even if rents do decline, the gap with rents currently paid by tenants is often a sizable difference that would need to be closed.

The combination of income and the valuation of that income forms our baseline forecast for the commercial real estate market. Recognizing that the market is never certain and there is always volatility around the expected scenario, we further conduct probability-based, forward-looking scenario analysis to capture all the uncertainties around our baseline forecast. The "cone" below (Figure 8) represents a typical rent and value forecast exercise that has a base-case expectation (the middle-line) and all the likely scenarios within the 95 percent confidence interval. In other words, based on the historical dynamic relationships, as well as the current real estate market condition,

Figure 8

Real Estate Market Forecast "Cone"– Baseline and Uncertainties



Source: CBRE/Torto Wheaton Research

we are 95 percent confident that the future real estate market outcome will be somewhere between the plus and minus two standard deviation lines.

Let's use the Chicago office market as an example: our baseline forecast calls for an increase of 27,300 office-using jobs for the service sector and a decrease of 500 office-using jobs for the Finance, Insurance, and Real Estate (FIRE) sector in the next two years. For the same time period, our 95 percent stress-case forecast calls for a job loss of 10,500 for the service sector and a job loss of 7,100 for the FIRE sector. In comparison, the magnitude of the stress-case job loss is more severe than that of the 1991 recession, where the maximum two-year job loss

was 2,900 for the service sector and 5,000 for the FIRE sector. As a consequence, the Chicago office vacancy rate would increase by 4.9 percent in the stress scenario, versus a 1.5 percent increase in the base case and the rental rate would decline by 3.9 percent in the stress case, compared to a 6.5 percent increase in the base case. Meanwhile the office value would also decline by 20 percent, compared to a decline of 8.7 percent in the base case. Needless to say, in our view, the baseline is the most likely case and the borderlines around this "cone" have the least probability of happening.

Figure 9

Cumulative Ten-year Loss Projection for the CMBS Conduit Universe

Cohort Cohort	Current Balance	Base-case Loss %	Stress-case Loss %
1999	$25,137,477,043	1.10%	1.60%
2005	$132,994,369,122	2.20%	4.40%
2006	$161,346,884,854	3.30%	7.10%
2007	$198,358,299,399	3.50%	8.20%
Total	$740,094,069,914	2.53%	5.32%

Source: CBRE/Torto Wheaton Research

The importance of having such a probabilistic "cone" is that we can now quantify the likelihood of future scenarios in a consistent and probabilistic manner. We don't believe it to be very meaningful to debate whether a scenario (even a doomsday one) would ever happen, since—however small—there is always a possibility. A player's chance at winning the lottery is absurdly slim; however, people win. The more meaningful practice is to look at how likely each scenario is to happen. There are surely thousands of different opinions out there and the critical difference is that some are more likely and more realistic than others. As mentioned earlier, any financial assets—including the CMBS/CMBX instruments—should be priced looking at a probabilistic range of outcomes, while taking into consideration the uncertainty (volatility) of the expectations. This is exactly the approach we are going to take in analyzing the baseline and stress-case loss estimates for the CMBS collaterals. Luckily, we have a perfect tool, readily available to analyze the overall CMBS/CMBX market—Moody's Commercial Mortgage Metrics (CMM).

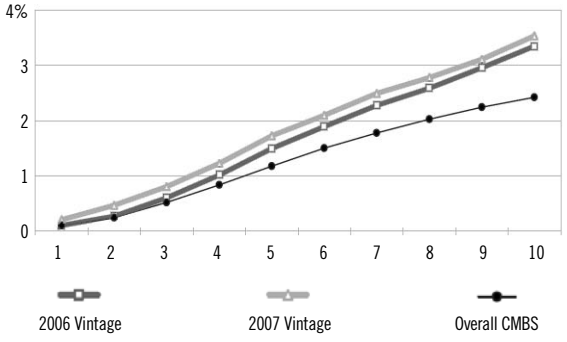
CMBS LOSS PROJECTION AND CMBX SPREADS

CMM is used to run every loan with sufficient information in the CMBS universe. The results of those runs are displayed in the tool "CMM on Trepp," which takes into consideration all the important loan-level characteristics such as debt service coverage ratio (DSCR) and loan-to-value (LTV) ratio as well as the real estate market forecast "cones" provided by CBRE/Torto Wheaton Research. We find that the overall loss rate of the entire CMBS conduit universe is forecast to be 2.53 percent cumulatively over the next ten years, or roughly 25 bps annualized loss on average. As a result, we estimate $18.8 billion of future losses for the entire CMBS conduit universe.[4]

A careful look at the CMBS loss projection table also reveals that the last two vintages (2006 and 2007) do have higher expected losses than the ones from 2002 and 2003. This is not surprising, given the widely recognized fact

Figure 10

CMBS Cumulative Loss Rates



Source: Trepp, CBRE/Torto Wheaton Research

that the commercial mortgage underwriting standards deteriorated at the peak of conduit origination. The substantially higher origination volume starting from 2005 through 2007 undoubtedly brought in loans that would not have been underwritten during normal business times. Overly abundant capital through that period very likely artificially inflated the property prices for certain assets, and the loans that originated in 2006

Figure 11

Loss Protections

CMBX	Baseline Loss%	Average Subordination		# of Bonds w/Current Subordination Less than Baseline Losses			Stress Case Loss % *	CMBX Market Implied Losses**	Note
		BBB-	BBB	BBB-	BBB	A			
CMBX.1	2.5	3.3%	4.5%	1	0	0	5.0%	11.2%	2005 deals
CMBX.2	3.6%	3.2%	4.3%	17	5	0	7.9%	11.1%	2006 deals
CMBX.3	3.3%	2.8%	3.9%	19	7	0	7.4%	10.5%	2006 deals
CMBX.4	3.7%	3.4%	4.4%	20	2	0	8.5%	11.4%	2007 deals

* **The stress case is defined as the one that has 5% statistical probability of happening.**
** **Based on our analysis from the average trading spreads between Feb. 1 and Feb. 21, 2008, published by Markit.**
Source: CBRE/Torto Wheaton Research

and 2007 are expected to perform particularly poorly, though the worsening of loan quality started around 2005. That said, we would also like to point out that the 3.3 percent and 3.5 percent cumulative ten-year loss rates for the 2006 and 2007 vintages are nowhere close to having a disastrous effect on the commercial mortgage market, as these numbers are still considerably below those experienced in the mid- to late-1980s. Recall that the earlier analysis shows that the worst vintage (1986) from the Snyderman/Esaki studies reported a lifetime loss rate of around 10 percent, which is about three times our loss estimates for the 2006 and 2007 CMBS cohorts.

In sum, while the recent CMBS vintages are likely to perform worse than previous vintages over their lifetime, relying on the worst loss number in history for trading CMBS/CMBX securities would be less appropriate than performing a forward-looking analysis based on the current market conditions. Very importantly, our analysis highlights the value of due diligence in understanding the underlying collateral and identifying both absolute and relative values in today's market.

We next examine the timing of the CMBS defaults and losses, since it usually takes some time before credit problems start to surface after loan origination. For commercial real estate, unlike residential, it normally takes a few years before any volatility in the market starts to affect the lease rolls and in-place rents. As such, commercial real estate income growth is often affected by long-term leases, and moves slowly. The default seasoning pattern has been well documented from the historical data in the literature. There is no apparent exception this time; our analysis shows that any stress in the market today will not show up as large losses until 2010-2012, when the dominating 2006 and 2007 vintages started to season. We expect the peak annual loss rates for the overall CMBS universe to be 32-33 bps between 2010 and 2012—just more than double the 14- to 16-bp annual loss rates reported by the commercial banks between 2001 and 2003, when the last recession led to slightly more defaults and losses. In particular, the 2007 vintage is expected to reach its peak loss rate of 50 bps per year in 2012, still just about one-third of the charge-off rate experienced in 1992 by all the commercial banks. In terms of cumulative lifetime losses, we expect future losses for the worst vintage in this cycle (the 2007 vintage) to be 3.5 percent, which is about one-third of the estimated realized loss for the worst vintage (1986) of the mid-1980s to mid-1990s commercial real estate cycle.

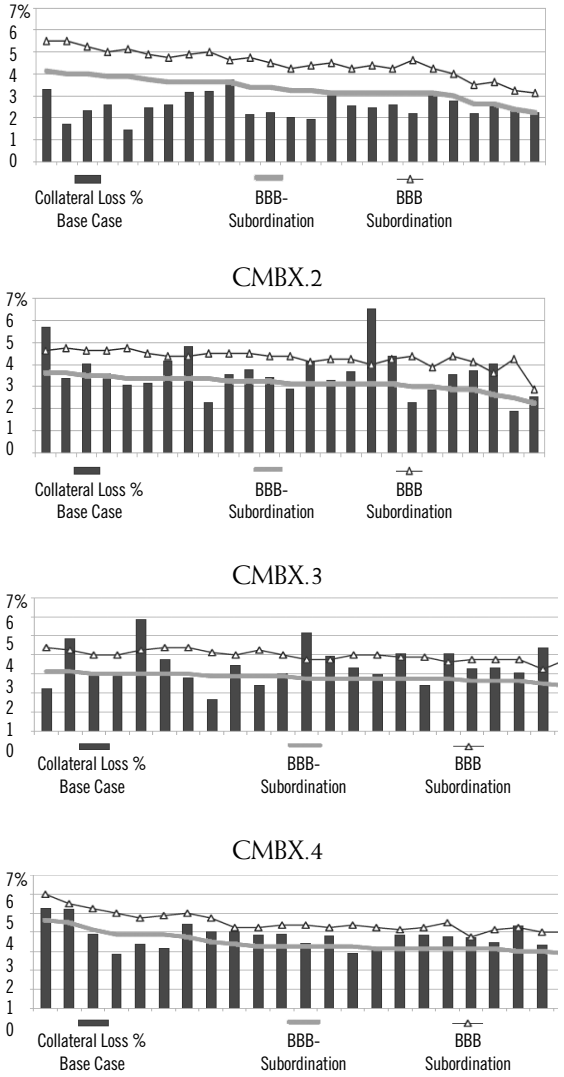
We should point out as well, that our analysis does incorporate higher refinancing risks for the vintages of 2006 and 2007, most of whose loans are maturing in 2016 and 2017. This is not only because the loans were underwritten at tighter spreads and lower cap rates, but also because the majority of the loans in these cohorts are either partially or fully interest-only (IO) loans, which brings a lot more risk when the loans mature and are ready to be refinanced. The loss rate uptick seen in CMM for the later years of the 2006 and 2007 vintages reflects this expectation. As a result, the cumulative loss curves of

the 2006 and 2007 vintages are not forecast to flatten out in the later years as much as the standard loss curve for the overall CMBS universe.

As the future is always uncertain no matter how confident we are with our baseline forecast, we conduct a range of simulations based on the "cones" concept as explained earlier. We can look at different results along this range of possibilities, including a "worst case" scenario which has merely 5 percent chance of happening. In this case, the loss projection for the overall CMBS universe is 5.32 percent, just half of what the CMBX market price is implying.

Figure 12

Subordination Levels and Loss Projection for CMBX Reference Deals



Commercial Real Estate Loss Expectation and CMBS/CMBX Prices
Source: Trepp, CBRE/Torto Wheaton Research

Figure 11 reports specifically the collateral loss projections for all four CMBX indices. At the overall level, our baseline loss projections were less than one-third of that the CMBX spreads were implying during the first three weeks of February 2008. In fact, the implied loss rates from the CMBX market are even much higher than our loss projections in the stress scenario, which has only 5 percent chance of happening from a statistical viewpoint. Put another way, the chance of the CMBX implied loss rates happening is statistically very, very minimal. And it is indeed quite shocking to see that the market is actually pricing and actively trading based on such a low probability event.

Looking through the collateral loss projections for all the CMBX deals, as displayed in CMM on Trepp, we find a wide range. What is particularly evident in the market is that not all deals are created equal: while some of the bonds are likely to have potential credit issues—especially the "BBB-"-rated bonds in CMBX.2 through CMBX.4—most of the "BBB"-rated bonds are expected to perform well and none of the "A"-rated bonds are expected to have principal repayment problems from our baseline analysis. Even at the "BBB" level, since each CMBX index is constructed as a basket of equally-weighted bonds (i.e., each underlying bond is limited to contributing up to 4 percent loss to a particular index), the CMBX BBB indices as baskets of bonds are unlikely to suffer losses at the level implied by the current spread level.

Take the CMBX.3 BBB tranche as an example. If the trading spread is at 1200 bps and the notional amount is $100 million, the protection seller would receive almost half of that notional amount up front and would also receive $2 million per year as insurance premium. Even assuming the principal write-downs would be 100 percent for all seven underlying BBB bonds that have current subordination levels that are less than the expected loss rates[5], the floating payments would still be maxed out at $28 million in losses (7 x $4 million) that are expected to occur gradually over a number of years. This appears to be very rich rewards for the risk taken. Other factors, including the intrinsic diversification benefit of pooling the 25 underlying bonds on equal

weights and the back-end loaded credit loss seasoning pattern, in our view, further strengthen the value proposition for protection sellers. The fact that none of "A"-rated underlying bonds would suffer principal loss while recent CMBX A tranches are still being traded at spreads of 600-800 bps speaks loudly about the massive dislocation between the financial market and the commercial real estate market.

Purely from a fundamental perspective, our analysis shows that the additional credit loss-related spreads required for "A"-rated tranches would be about 100-150 bps for CMBX.2 and CMBX.3 indices and 250-300 bps for CMBX.4, even during our macro-economic stress scenario.[6] The CMBX AA and AJ tranches should withstand a commercial real estate meltdown in the magnitude of the early 1990s. The current 400- to 500-bp trading spreads of these tranches simply bear no relationship to the collateral performance in any reasonable scenario. Also bear in mind that different CMBX indices could have drastically different performance prospects, for instance, our analysis suggests that the BBB- and BBB tranche of CMBX.1 offers exceptional value to protection sellers at the current spread level, even though the similar tranches from CMBX.2 through CMBX.4 may be less so.

We certainly acknowledge that short-term trading has made it difficult to act on a long-term fundamentals view in this market environment, as the CMBX market currently appears to be driven by macro hedge funds and additional technicals. Investment opportunities do exist, however, for value investors who possess deep knowledge and are capable of recognizing intrinsic value regardless of the transient market sentiment. The key is due diligence and understanding each deal and its unique collateral characteristics. We would like to stress once again that, though we expect collateral performance for CMBX.2, CMBX.3 and CMBX.4 to be worse than original rating categories would suggest, the substantially widened CMBX spreads may compensate for the future credit risks involved.

CONCLUSION

Unlike the residential real estate market, where a fundamental imbalance of supply and demand has led to the decline of the home values, the commercial real estate market remains healthy and is expected to perform well from a space market perspective, even as the economy runs into a period of slow or no growth. While vacancy rates across all major property types are expected to inch upward for the next few years, the peak vacancy level, expected around 2009, will be lower than the peak in 2002/2003. Furthermore, there is strong momentum for market rents to continue growing and all major property types are expected to have positive—albeit lower—rental growth rates in 2008 and 2009. Benefiting additionally from long-term leases signed up from the last few years, net operating income is also expected to do well, despite some forecasted reduction in the overall occupancy rates, thereby providing sufficient cash-flow protection for the credit performance of commercial real estate loans.

By applying CMM on Trepp, which incorporates our real estate market forecasts, we conclude that the cumulative ten-year loss rate for the entire CMBS conduit universe to be 2.53 percent. While we do find that 2006 and 2007 vintages are expected to perform a lot worse than earlier vintages, their baseline loss projections of 3.3 percent and 3.5 percent are far from enough to cause a disaster in the commercial real estate market. On a similar note, the highest collateral loss rate for the CMBX series in the baseline analysis is forecast to be 3.7 percent, just one third of what the current market spreads have built in. Even in a stress-case scenario that has only 5 percent chance of realization, we find that the stressed ten-year cumulative loss rates are still significantly below what the current CMBX spreads are implying. In sum, our bottom-up fundamental analysis of the future collateral performance is not able to explain such wide spreads as exist in today's CMBX market, especially for tranches rated "A" and above. As such, we strongly recommend that market players take a deeper look at the commercial real estate market outlook and carefully mark the CMBS/CMBX to market by incorporating realistic projections of the underlying collateral performance. Just as with any other asset-backed security, the absolute and relative value of CMBS/CMBX can be much better identified if we understand the underlying assets better. ■

ENDNOTES

This article is a variant of a piece previously published by Torto Wheaton Research in its TWR Viewpoint.

1. Both ACLI and FDIC cover most institutions in their territory industries; therefore the statistics reported by both are quite representative of the overall industry experience.

2. In the latest update of Snyderman (Esaki and Goldman,

"Commercial Mortgage Defaults: 30 Years of History," CMBS World, 2005), it was reported that 55 percent of 90+ days default loans were eventually liquidated. Since the default rates here are defined as 60+ days delinquent, we feel it is safe and reasonable to assume a 50 percent liquidation rate. The average loss severity was reported as 33 percent, without more detailed breakdowns. CMM shows loss severities would be higher during market downturns.

3. We used a calculation method similar to that mentioned in the earlier paragraph, to derive the 10 percent loss estimate.

4. A very crude extrapolation can be applied to estimate upward to $84 billion of base-case losses for the overall U.S. commercial mortgage industry, based on the CMBS conduit market's 22 percent share of the aggregate $3.2 trillion commercial mortgage holdings in the U.S.

5. Most of these bonds are not expected to suffer 100 percent principal loss; therefore, the principal write-downs could be substantially less. Here we apply conservative estimates just to make our argument.

6. We do not intend to predict any short-term spread movements as in the current environment that would be dictated more by the market technicals. The spreads might actually drift higher before moving back to reasonable levels to be in line with commercial real estate fundamentals.

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Quo Vadis Redux— Or 'Where Are We Heading?'

BY DANIEL ROSE, CRE

Below is the text of a speech presented by ***CRE Daniel Rose*** *at the first national conference of the Yale Alumni Real Estate Association, held at Yale University in April 2008. Rose asks real estate professionals to think about…"where we have been, where we are, and where we should be going."*

AT THIS FIRST NATIONAL CONFERENCE OF THE Yale Alumni Real Estate Association, it seems appropriate to address two important questions: First, looking at the real estate field in perspective, we should ask where we have been, where we are and where we are going. Second, as individuals seeing ourselves in perspective, we should ask where we have been, where we are, and where we should be going.

To deal effectively with the first question, we must realize that real estate economics has micro and macro aspects. Local challenges of site acquisition, building design and construction, leasing, management and so forth are obviously crucial, and they are the fundamentals of our day-to-day activities. But the macro problems of real estate cycles and the financial conditions that determine a project's success are influenced by national and global factors not readily apparent.

Local market conditions and global capital flows must both be understood; and, in 2008, the macro economic question is more challenging.

No one has an unclouded crystal ball, and it is sobering to realize that, for example, the U.S. credit crunch of 2007 took virtually all economists by surprise. In 2006, the term "subprime mortgage" was unknown to the general public, and most economists (except for a few such as Yale's Professor Robert J. Shiller) seemed unconcerned with housing finance practices.

About the Author

Daniel Rose *is chairman of Rose Associates, Inc., a New York City-based real estate organization, and currently serves as a director of more than 20 Dreyfus-sponsored mutual funds. He also teaches, lectures and writes on a variety of real estate and planning subjects.*

In his career, Rose has developed such properties as the award-winning Pentagon City complex in Arlington, Virginia, and the One Financial Center office tower in Boston. As an institutional consultant, he created and implemented the "housing for the performing arts" concept for New York's Manhattan Plaza.

Rose founded (and is now Chairman Emeritus of) the highly-acclaimed Harlem Educational Activities Fund, whose inner-city students are flowing into the nation's leading high schools and colleges, and whose junior high school chess teams have ranked first in the nation. He is also a founding board member of FC Harlem/Harlem Youth Soccer.

He served for a decade as a director of U.S. Trust Corporation, and was appointed by the former President Clinton as vice chairman of the Baltic-American Enterprise Fund, a U.S.-government-funded organization that for 10 years has stimulated free market business activity in Latvia, Lithuania and Estonia.

Rose has served as "Expert Advisor" to the Secretary, U.S. Department of Housing and Urban Development, and as "Expert/Consultant" to the Commissioner of Education, U.S. Department of Health, Education and Welfare; and has served on a number of New York State and City of New York panels and advisory boards on taxation, housing and economic development.

The educational institutions with which Rose has been most closely affiliated are the Horace Mann School (Board Chair) and Yale University (Associate Fellow, Pierson College; Class of 1951 delegate, Association of Yale Alumni). Other academic involvements include Harvard University, Columbia, MIT, The New School, NYU and the Israel Technion.

Over the years Rose has received many of the real estate industry's most notable awards, including The Counselors of Real Estate's James E. Landauer/White Award, the Building Owners and Managers Association's award for Community Service, the Urban Land Institute's award for Excellence for Large Scale Mixed-Use Development, and the Realty Foundation of New York's Man of the Year Award. In 2003 he was named Ernst & Young's "Entrepreneur of the Year" in real estate.

A military intelligence analyst and Russian language specialist with the U.S. Air Force during the Korean War, he has pursued his interest in foreign affairs as an officer or member of the Foreign Policy Association, the Council on Foreign Relations and the International Institute for Strategic Studies, and he was a founding board member of the EastWest Institute. Since 2004, he has been a frequent participant by telephone on Forum, an English-language political discussion television program broadcast from Tehran, Iran.

Quo Vadis Redux—Or 'Where Are We Heading?'

Today, the current volatility of the stock market, with its three-digit surges and crashes, shows how nervous investors are; the fluctuating interbank lending rate shows how wary banks are of lending even to one another; and the conflicting signals we receive are bewildering.

On the same day that the Blackstone Group announced it had raised a fresh $10.9 billion fund to invest in real estate opportunities ahead, JPMorgan Chase analysts predicted the U.S. commercial real estate market could decline by as much as 20 percent over the next five years. And at the moment when most observers anticipate a softening of the Manhattan office market because of an expected loss of 20,000 to 30,000 financial services jobs, the General Motors Building is rumored to be close to a sale at $2.9 billion that would give its purchaser a negative cash flow.

On Friday, March 14, I heard President Bush tell the Economic Club of New York how strong and resilient the American economy was and how government should not over-react to current problems. As he spoke, Bear Stearns informed the government it was contemplating Chapter 11 protection, and Messrs. Bernanke and Paulson spent the weekend pulling rabbits out of their financial hats.

The President's relaxed reaction, then and since, recalls the comic version of Kipling's poem *If*—"If you can keep your head when all about you are losing theirs and blaming it on you, perhaps they know something you don't."

This week, Federal Reserve Chairman Bernanke told Congress that he expects the economy to grow in the second half of 2008 and to be solid in 2009. Yet this same week's Michigan Consumer Confidence Survey showed public confidence (historically the best predictor of recession) had declined to its lowest level in 16 years; the Conference Board's index of leading indicators fell for the fifth consecutive month; and forecasts indicate that residential construction this year will fall below one million starts for the first time since 1991. Traditional economic forecasting signals—such as job loss/creation, home foreclosures, credit card delinquencies, bankruptcies—are negative.

Optimists, who want to believe in good times, but who contemplate grim fundamentals, feel like the fellow in the Tom Lehrer song who was "as nervous as a devout Christian Scientist with appendicitis."

At this moment of financial turmoil it is useful to remember some basic economic "facts of life":

a) leverage works in both directions, with smiles on the way up and tears on the way down, and our financial institutions and vehicles are wildly over-leveraged in these difficult times;

b) a "liquidity crisis" can easily be solved by the Federal Reserve (as lender of last resort) but a "solvency crisis" is a different problem entirely—monetary policy cannot make bad investments turn good;

c) supply and demand are complex factors, with "demand" referring to those ready, able and willing to buy, and "supply" often varying with price. A public worried about falling home values, rising interest costs and possible unemployment may be reluctant to spend;

d) with national and international inflation rates clearly rising, we note that Jimmy Carter did not copyright the term "stagflation" in the 1970s, so it will be available for use next year should conditions warrant it. It is difficult to understand why our economists continue to use the term "core inflation," which does not include energy or food prices, since Joe Sixpack is fully aware of what he is paying at the gas pump and the supermarket;

e) and, finally, we should remember that Jack Kennedy noted not only that "the rising tide lifts all the boats," but also, as he smirked privately to friends, "when the police raid a house, they take all the girls."

Real estate practitioners sometimes forget how deeply their fortunes are tied to those of the general economy. A good place to begin such a discussion is with capitalization rates, or the ratio between a property's income and its price.

A net cash flow as free and clear of $100 with a cap rate of 10 percent gives a property a price of $1,000. If the cap rate drops to 5 percent, the price of the same income flow rises to $2,000. When cap rates "revert to their historic mean," those prices will decline accordingly.

From 1987 to 2001, cap rates of U.S. office buildings, shopping centers and rental housing complexes generally were in the 8 to 9 percent range; by 2007, cap rates had plummeted (in some markets to 5 percent or less) and prices soared.

The cause was detailed in Tony Downs' perceptive book, *Niagara of Capital*, which describes the massive flow of capital into real estate after Alan Greenspan in 2003 dropped interest rates to 1 percent and kept them there. For 31 consecutive months, the base inflation-adjusted short-term interest rate was below zero. The result was, in Downs' words, "an unprecedented disconnect between conditions in commercial space markets, where rents and occupancies were falling, and conditions in commercial property finance, where prices soared on well-occupied buildings with good cash flow."

To compound matters, just as a global savings glut, particularly in Asia, poured foreign funds into the U.S., Wall Street's huge increase in securitization of debt of all kinds gave lenders an unrealistic sense of confidence in the very real risks they were facing; and rating agencies' AAA approval of subprime packages added fuel to the fire.

These reinforcing factors pushed cap rates to their recent lows which history tells us cannot be sustained. Last year when Harry Macklowe bought a package of office buildings from Blackstone for $7 billion, with a $5.8 billion short-term loan from Deutsche Bank and $1.2 billion from the Fortress Investment Group, his $50 million on top controlled a lot of bricks and mortar. Today, with Deutsche Bank pressing for return of its loan and no buyers in sight for the package at $6 billion, life looks different for all concerned.

At the moment, U.S. real estate markets are all but frozen, but most observers believe it will probably take about 18 months for them to return to normal fluidity. At what cap rates, and at what sales prices, one can only guess.

U.S. housing markets present a similar picture, with a universal feeling that they are overpriced and over-mortgaged.

As Professor Shiller documents in his thought-provoking book, *Irrational Exuberance*, real U.S. home prices, which traditionally rise at the rate of inflation, increased 52 percent between 1997 and 2004, much faster than incomes rose. From 1985 to 2002, he points out, "the median price of an American home rose from 4.9 years' per capita income to 7.7 years' per capita income."

Nationally, home prices have dropped about 10 percent since last spring, and Professor Shiller said recently that he thinks we could see home prices in gradual decline for five years or more. An authority on the psychology of financial decision-making, he is a firm believer in business cycles.

Some observers believe that during the next three to five years, house prices could fall as low as their 2001 levels, which in some regions would show huge losses. Goldman Sachs recently proclaimed that home prices in California are overvalued by 35 to 40 percent. Once home prices in a region fall by more than 20 percent, even borrowers with solid credit and mainstream mortgages face serious problems. Subprime borrowers will have long since been in extremis, with their mortgagees in trauma.

Government assistance efforts to date have focused on lenders; homeowners present a more difficult problem. Widespread home ownership is a desirable goal, but not all purchasers can afford to own houses; and no one feels much sympathy for speculators who bought condos or second homes hoping only for a quick and profitable flip.

Some economists fear that the subprime problem may be the earliest manifestation of a deeper credit bubble involving high yield bonds, commercial mortgages, leveraged loans, credit card and student loan debts and—the big unknown—credit default swaps. These instruments, meant to insure bond holders against default, currently cover some $45 trillion, yes trillion, in investment portfolios, up from $1 trillion in 2001.

If the Bernanke/Paulson team can maintain stability and confidence in the integrity of our financial system, these challenges can be met. Otherwise, the possible scenarios are too painful to contemplate.

When I recently asked Larry Summers, former Secretary of the Treasury and former head of "that other place," if he was worried about credit default swaps and the other huge, opaque financial vehicles, he replied, "Yes, worried, but not panicky," by which I assume he thought they could be dealt with in due course.

At some point, the world's increasingly complex financial structure—with an estimated $500 trillion dollars in opaque derivatives that are unanalyzed, unregulated and barely understood, and recently created multi-billion dollar Sovereign Wealth Funds—that can be applied to political as well as economic goals—must be subjected to mature and thoughtful discussion and prudent regulation.

Eventually, when we come through our current cyclical problem, the next U.S. President can then face our zero national savings rate, large and continuing domestic and foreign account deficits, weakening dollar, huge and pressing infrastructure needs, our unfunded Social Security obligations, painful dependence on foreign oil, and national income inequality at its highest level since 1929. (I assume health care and environmental problems will be tackled first.)

Just as a heroic Paul Volcker faced up to the ramifications of the "cheap money" policies of Arthur Burns, so a new Paul Volcker will in turn have to face up to the problems left by Alan Greenspan; and life will resume.

In time, the world will right itself; and the real estate economy will revert to its historic "means," that is, house prices rising by roughly the rate of inflation, and income-producing real estate with cap rates reflecting the risk/reward ratios of medium quality bonds.

In the long run, the sound strategies of thoughtful investment managers like Yale's incredible David Swenson and of "value" investors like Warren Buffet will be proved correct, of course. But in the long run, too, new financial bubbles will eventually arise and will eventually burst.

Robert Shiller, who more than any other economist writing today understands the impact on business cycles of herd psychology and "animal spirits," writes admiringly of his mentor, Prof. Charles Kindleberger, author of the classic, *Manias, Panics and Crashes: A History of Financial Crises.*" Kindleberger, in turn, admires and cites Charles Mackay's *Popular Delusions and the Madness of Crowds*," which describes the South Sea Bubble, The Dutch Tulip Craze, John Law's Mississippi Schemes and similar explosions.

If only our bankers, brokers and hedge fund types had read those books!

As for today's second question, that of our individual careers and the lives we lead, I would like to recommend two books that should be required reading for everyone in our field. The first, by Buzz McCoy, is called *Living Into Leadership—A Journey in Ethics.* The second is by William J. Poorvu and is entitled *Creating and Growing Real Estate Wealth—The 4 Stages to a Lifetime of Success.*

These two volumes are by men of character and competence who are giants in our field and whose wisdom is widely admired and respected. They discuss the importance not only of deals but of relationships, of investment not only in one's financial capital but also in one's human capital through appropriate training and experience; and they discuss your role in your career field and in your community.

In pragmatic terms and by practical examples, they echo the ancient Roman Tertullian, who said, "Any calling is noble if nobly pursued."

Study these books and—along with a good sense of values, a happy family and a Yale education—they will help you not only to make a living but to make a life.

Thank you.

REPLIES TO QUESTIONS:

1) When is the economy likely to revive? No one knows for sure. Larry Summers is probably correct when he guesses that we "are in the third or fourth inning" of a recovery.

   If we act wisely, the present recession will probably be like our other post WWII recessions, or perhaps just a little worse. In Japan in the 1990s they acted unwisely and their problems lasted for years.

2) Most observers applauded the Fed's recent moves, because a Bear Stearns bankruptcy would have had a fearful "domino" effect on the financial world. A few, however, claimed that it was a case of "private profits, socialized losses"; and others raised the cry of "moral hazard," which means that risk-taking is encouraged by knowledge of a prospective bail out.

   On balance, it is crucial to maintain public confidence in the system. The term "credit" stems from the Latin "credere"—to believe—and lenders won't extend credit if they don't believe they will be repaid.

3) The $500 trillion estimate of world derivatives comes from the Bank for International Settlements. To give a sense of scale, the U.S. national debt is now $9.5 trillion, the U.S. GNP is about $13 trillion and our federal budget is about $3 trillion.

   The key problem here is not only the size of these derivative exposures but the inability to price deriva-

tives accurately in a hysterical down market, when everyone wants to sell but there are no buyers.

The originators of the widely-used Black-Scholes pricing model for derivatives won a Nobel Prize but lost a fortune, because what works in normal times does not work in a panic, when "mark-to-market" valuations are not possible.

4) Steps to prevent even more serious problems in the future are a daunting challenge.

Keynsians think government should do everything; Milton Friedmanites think the government should do nothing but adjust the money supply; the Delphic Oracle said, "Nothing in excess;" and "I am a Delphian."

William McChesney Martin, a former head of the Fed and another Delphian, believed government should "lean against the wind" in the early stages of a runaway boom or a destructive bust. The mind-boggling problem is to determine the proper timing.

However, as Kindleberger and Mackay point out, human euphoria, greed and hysteria will always be with us; and so will bubbles.

Regulatory changes, such as requiring increased disclosure of derivative holdings and "off-balance sheet" risks and requiring appropriate capital adequacy standards, will most likely be enacted in time. Risk management decisions, however, should be dictated by the free market; and economic fluctuations are part of life.

5) Rose Walk, the street-closing in front of the Yale library, was first suggested years ago by the example of Columbia University's closing of 116th Street in front of their library. The next best thing to having a good idea is to recognize someone else's good idea.

6) The term "core inflation" is meaningless today. It recalls Abraham Lincoln's favorite riddle: if you call the tail a leg, how many legs does a sheep have? Answer: four, because calling it a leg doesn't make it one.

7) What the coming "hot" areas in the economy will be is anyone's guess. My own hunch is that in time we will revert from a system that currently over-emphasizes borrowing and consumption to one that again values savings, investment and production.

In the real estate field, I believe "infrastructure" will be the new buzzword; and Jane Jacobs, the current icon of neighborhood preservation, will soon be overshadowed by a newly rediscovered Robert Moses. You will recall that it was Moses who built the infrastructure for our transportation systems, parks, playgrounds and so forth.

High density city life will be for those who can afford it. Post WWII suburban sprawl—with single family houses, lawns and two-car garages—will be less fashionable than high rise, high density development at suburban mass transit nodes.

Regional malls will add high rise housing, office, hotel and recreational and civic facilities to become new town centers, much like our Pentagon City development of twenty years ago.

In the business world, bio-medical engineering and pharmaceutical facilities, alternative energy, health, education and recreation will be continuing areas of growth.

Those are my guesses.

8) How should real estate investors approach new involvements in this challenging climate? Well, think of how porcupines make love—very, very carefully!

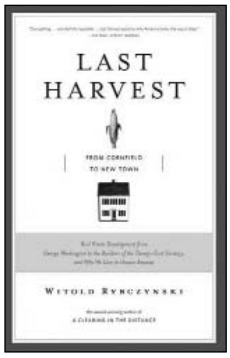
Thank you. ■

RECOMMENDED READING

Last Harvest: How a Cornfield Became New Daleville

by Witold Rybczynski (April 2007, Scribner, 308 pages)

REVIEWED BY PETER HOLLAND, CRE



I AM CERTAIN THAT VIRTUALLY EVERY member of The Counselors of Real Estate has an active level of curiosity for the real estate projects we all observe in our professional and day-to-day lives. While a tailor may observe a fine fabric, the orthodontist a smile, we look at buildings and real estate developments and pass our own judgment. If you are like me, you often ask "why?" Why, and how was this built, or too often, "what were they thinking?" We have seen good and bad concepts in good and bad locations, and in recent years we have seen a rush to overdevelop residential properties be they in high-rise condominiums, in lifestyle communities or in so-called "exurbia"—areas distant from traditional suburbs and CBDs. Witold Rybczynski, who teaches at the School of Design at the University of Pennsylvania, answers our questions as he describes one exurban development in his new book *Last Harvest: How a Cornfield Became New Daleville*. The story of New Daleville is of interest itself, but Rybczynski adroitly draws in historical and comparative residential development references from Philadelphia's Chestnut Hill, to Mariemont, Ohio, and on to Celebration, Florida. Having read Rybczynski's earlier book on the landscape designer Frederick Law Olmstead, I looked forward to this new work. *A Clearing in the Distance* was a readable, but serious book on an influential man. By comparison, *Last Harvest* is a good book, and while an interesting recounting of the development process, it lacks the gravitas, research and scholarship evidenced in the very high standard set by *A Clearing in the Distance.*

This is not to suggest, however, that it does not merit a read, and indeed it is an easy read, suitable for the next transcontinental flight or summer vacation. I do extend kudos for Rybczynski's good use of references and sources, and I found the index useful. Counselors who are engaged in the development process in general, and residential development in particular, will especially enjoy those moments of knowing recognition as the author describes the Gordian knots of development. After all, we are often engaged to unravel those very same knots. Rybczynski does us a particular service in that he weaves together the development process as it occurs, and as it occurs over a long period of time. This approach affords us new insights as we see development from many perspectives—that of the homeowner, the landowner, the builder, the civic official, and so on. It is instructive to see a different perspective on something we otherwise know well and that is close to our

About the Columnist

Peter Holland, CRE, *is a principal with the Hartford, Connecticut-based real estate advisory firm of Bartram & Cochran. Previously, he served as COO and CFO of CoreNet Global, where he formed part of the thought leadership of the profession and had day-to-day responsibility for the strategic direction, finances and operations of the organization. Holland has more than 25 years of consulting Fortune 100 and not-for-profit experience in the field of real estate.*

professional lives. Rybczynski excels at integrating the complexities of the development process for the reader. He describes and informs in a way that anyone who reads *The New Yorker* or *The Atlantic* will recognize.

At least until recently, America has been besotted with residential development (on that topic I would also recommend *House Lust* by Daniel McGinn), and in our predictable if not regrettable fashion, we have achieved nothing less than a worldwide financial crisis with our zeal. The story, however, has not yet been fully told. This observer, for one, does not believe that long term, investors and homeowners will abandon their fascination with residential real estate. Markets will adjust, the economy will recover and interest in home ownership will resume. And resume it will in new ways and in new places, ensuring that the story Rybczynski illustrates with New Daleville will continue. *Last Harvest* is a valuable book for today, but also one to keep and take off the shelf in the future. ■

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The award is named in honor of William S. Ballard, who was a leading real estate counselor in Boston in the 1950s and 1960s. He was best known for the creation of the "industrial park" concept and developing the HUD format for feasibility studies. He was an educator who broke new ground during his time in the real estate business, and whose life ended prematurely in 1971 at the age of 53.

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