

Real Estate's Evolution as an Asset Class

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This is the fourth special real estate issue published by *The Journal of Portfolio Management*. The work of the authors contained in these pages coincides with historic, cataclysmic events in the financial markets. These scholars, to one degree or another, all grapple with the fact that commercial real estate was ravaged by the credit crisis, along with virtually every other asset class. Several of our contributing authors also note that residential and commercial real estate may be closer cousins than many first thought—an idea that JPM's founding editor, the late Peter Bernstein, also noted in his introduction to the 2007 issue.

Like many students of finance, Peter Bernstein was fascinated by the evolution of real estate as an asset class. In introductions to the previous special real estate issues, he noted that real estate's claim to asset class status was bolstered by the application of what he called "Capital Ideas" from the broader world of investment theory and portfolio management. In his 2007 book *Capital Ideas Evolving*, Peter wrote: "Nothing more deeply divides us from the world before 1952 than the belated recognition of risk as the dominant element in portfolio management. This delay in understanding the role of risk unquestionably explains why practical applications of Capital Ideas were so hard to find fifteen or twenty years ago" (p. 237).

The evolution of investment analysis for commercial real estate echoes this observation,

with a lag factor that is, perhaps, one of the distinguishing features of the asset class. Many of the basic tools of portfolio management have now been applied to commercial real estate, but only in the last 10 to 15 years. The concepts may be 30, 40, or 50 years old, but institutional real estate investors have only just begun to use (and sometimes misuse) the standard techniques of the broader investment markets—diversification, capital market asset pricing models, international investing in both developed market and emerging market strategies, structured finance, securitization, derivatives, hedging, and risk management—to name but a few. Diversification strategies based on naïve categories of geography and property type have been around for 20 years or more. And more recently, diversification strategies based on risk–return style, investment structure, and domestic/international are being implemented.

Nevertheless, as has been observed in every other asset class, the use of these tools does not eliminate risk and, in fact, may expose investors to new, less-well-understood risks. Moreover, our understanding of the fundamental ways that the financial markets work—starting with the building blocks of the efficient market hypothesis (EMH) and the capital asset pricing model (CAPM) through to the more recent critique of EMH from the school of behavioral finance—will continue to be under constant revision. The collapse of the credit

markets in 2008 was an historic event. The repair and future regulation of the financial markets will also be momentous. And the ways that investors treat real estate in their portfolios will also continue to change, based on the confluence of financial market reforms and the continuing evolution of our understanding of real estate as a coherent asset class.

The readers of this special issue will all be dealing with the aftermath of the credit crisis, to one degree or another, for many years to come. The authors' and editors' aim is to help investors better understand the characteristics of the asset class and to re-evaluate real estate's role in mixed-asset portfolios by putting the events of the last 18 months into a broader perspective. We believe that this collection of articles offers insights into how commercial real estate investing lines up with assumptions about market efficiency, outlier risks, theories of diversification, and longer-term asset and risk allocation. These insights should foster a continued dialogue about the role of real estate in its many guises covering public and private markets and debt and equity structures.

A POST-CRISIS VIEW OF REAL ESTATE

In JPM's inaugural issue in 1974, Peter Bernstein wrote:

The dismal record of portfolio management over the past five years needs no elaboration. The causes of this record, however, are far more obscure than its painful visibility. With all the research input, the sophisticated economic analysis, the jolly conferences, the attention to decision making structures and the increased understanding of risk and reward. *How could so many have failed to see that all the known parameters were bursting apart* [italics added]?

Recent economic and capital market events have forcefully demonstrated once again that commercial and multifamily real estate are cyclical businesses. Investors recognize this, of course, but bull market enthusiasm sometimes seems to deaden this awareness. Real estate cycles are affected by both the general business cycle, which strongly influences operating earnings from a property, and capital market factors. While all cycles share common features, no two are exactly alike. The unique aspect of the current cycle is the dominant role of capital market influences and, in particular, the growth and collapse of the "shadow" banking

system.¹ Real estate's integration in recent years into the broader capital markets, particularly on the debt side, means that it both contributed to the broad-based credit and asset valuation bubble and is being strongly impacted by the negative ramifications of the bursting of the bubble and the rapid removal of liquidity from credit markets.

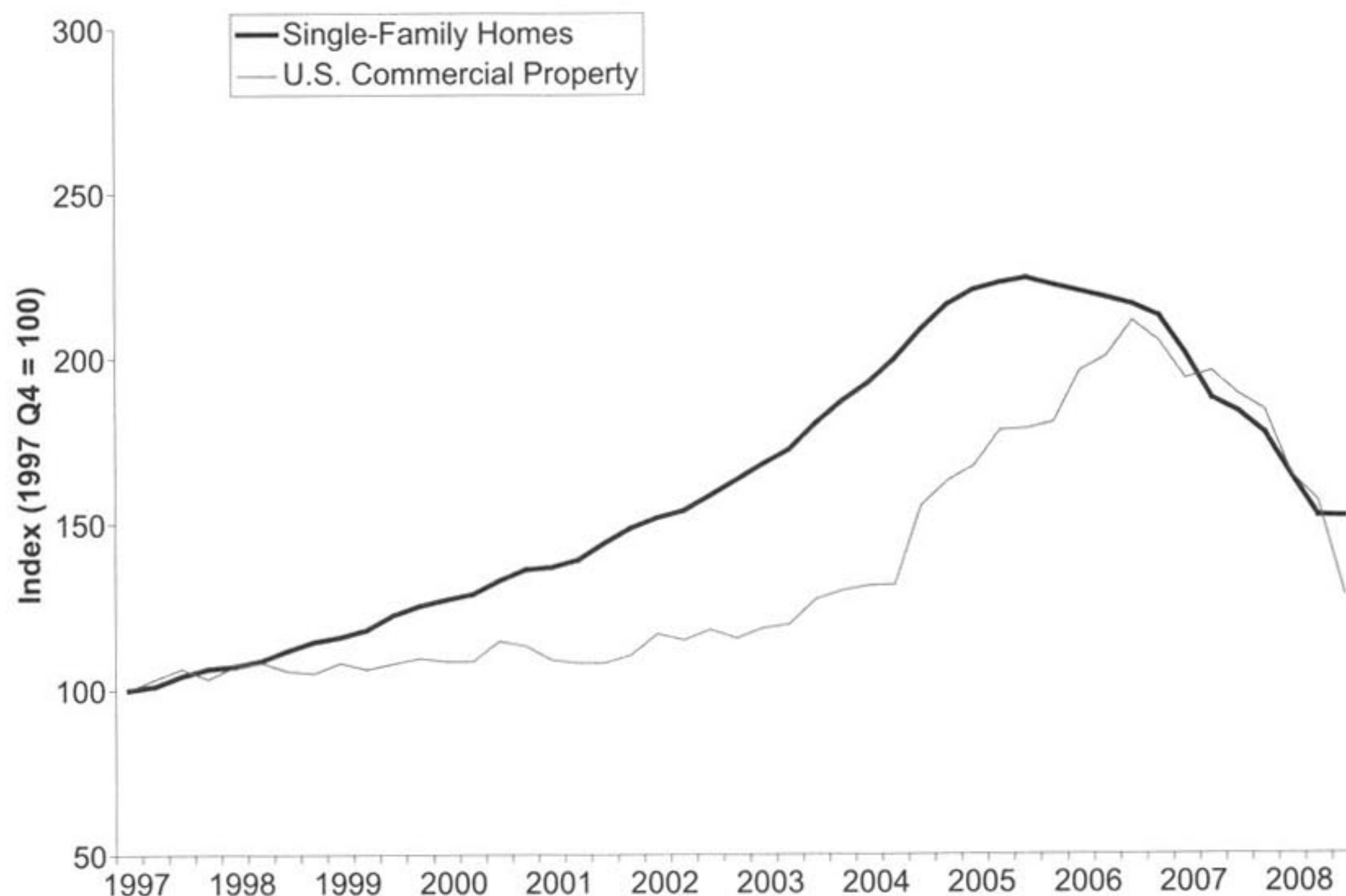
The credit crisis that started in the housing sector in 2007 spread far and wide, creating panic and gridlock throughout the U.S. financial sector, and ultimately caused the real economy to go into a deep recession. Credit market turmoil, coupled with an increasingly severe global economic downturn, set in motion a violent repricing of risk marked by negative and volatile returns across all risky asset classes. Prices of easy to exit liquid assets, including REITs and other stocks as well as those that had been assumed to be liquid such as AAA structured products, were hit particularly hard as extreme risk aversion resulted in a flight to quality, with investors hoarding cash and government bonds. Sharp declines in asset values in 2008, and particularly in the fourth quarter following the demise of Lehman Brothers, exacerbated the tightening of credit supply, helping fuel additional asset price deflation and volatility in the first quarter of 2009.²

Compared to residential real estate, commercial real estate was fashionably late to the party that the triumvirate of low interest rates, yield hungry investors, and structured finance instruments was throwing for the owner-occupied housing sector. As Exhibit 1 shows, commercial property values started to rise well after home prices began to accelerate.³ Initially, it was widely believed that the first shock waves emanating from the housing sector would not have a major impact on the commercial property sector, owing to the long-held belief (of both investors and bank regulators) that residential and commercial real estate exhibit fundamentally different financial behavior. In the next article in this issue, and one of the most intriguing of the collection, Gyourko [2009] critically examines the fundamental economic and financial connections between residential and commercial real estate. He puts forth several persuasive arguments to show how the two markets are inextricably linked in both space and time.⁴

Consistent with Gyourko's analysis, commercial property price declines have rapidly caught up to single-family price declines. To date, price declines from peak levels have been similar; home prices have dropped approximately 32% from their mid-2006 peak and commercial values, as measured by a transactions-based index, have fallen roughly 39% since mid-2007.⁵

EXHIBIT 1

Income-Property and Single-Family Home Prices



Notes: Indexed, December 31, 1997 = 100. Series extend through 2Q09.

Sources: S&P/Case Shiller; MIT Center for Real Estate (based on NCREIF data).

Capital Market Integration, Financial Leverage, and Sentiment

Although real estate investors can take some solace in the fact that commercial and multifamily real estate are not a direct cause of the problem in this recession, it is cold comfort given that the end result is eerily similar, and potentially worse, than in previous recessions, due to the ramifications of credit turmoil this time around. The recessions of 1990–1991 and 1973–1975 were both characterized by overbuilding with excess new real estate supply driven by abundant debt financing and notable property overvaluation. In both episodes, the collapse of commercial property was a precipitating factor in ensuing financial institution failures and economic woes. In the current recession, the pipeline of new supply is quite muted in comparison to previous cycles, but once again easy access to low-cost mortgage debt fueled an increase in financial leverage and risk taking that took commercial property asset and mortgage markets into unsustainable territory. In fact, the extent of debt-induced excessive property valuation may be even more pronounced than in the past.⁶

This confluence of events was not supposed to be able to happen again. The lessons about too much debt and pro forma projections seen through rose-colored glasses were believed to have been well taught by the property downturn of the early 1990s. Moreover, if some investors did not learn these lessons, or maybe were not in the real estate game in the last downturn to learn them, it was not supposed to matter on the margin because the securitization revolution that brought commercial real estate back from the ashes of the last downturn had integrated the sector with broader capital markets, thereby, in theory, enforcing a discipline on real estate market capital flows that would prevent a reoccurrence of the late 1980s and early 1990s boom–bust episode.⁷ The emergence of a large and important commercial mortgage-backed securities (CMBS) market, in particular, was widely viewed as a more efficient source of debt capital that would help improve the liquidity and transparency of commercial real estate and would act as a regulator of mortgage flows.

This time around the trifecta of an accommodating post-Internet bubble monetary policy, a global surplus of

capital, and the securitization revolution that transformed the U.S. banking system into an “originate and distribute” loan machine pushed the level of indebtedness in the U.S. to unprecedented levels. As part of the so-called global wall of capital, aggregate commercial and multifamily mortgage debt surged over the past decade from just over \$1 trillion in 1997, as the sector finally emerged from the early 1990s downturn, to \$3.4 trillion in the third quarter of 2008, taking the size of the mortgage market from just shy of 14% of GDP to nearly 25% (Exhibit 2), and topping the 1980s peak that was just under 20% of GDP.

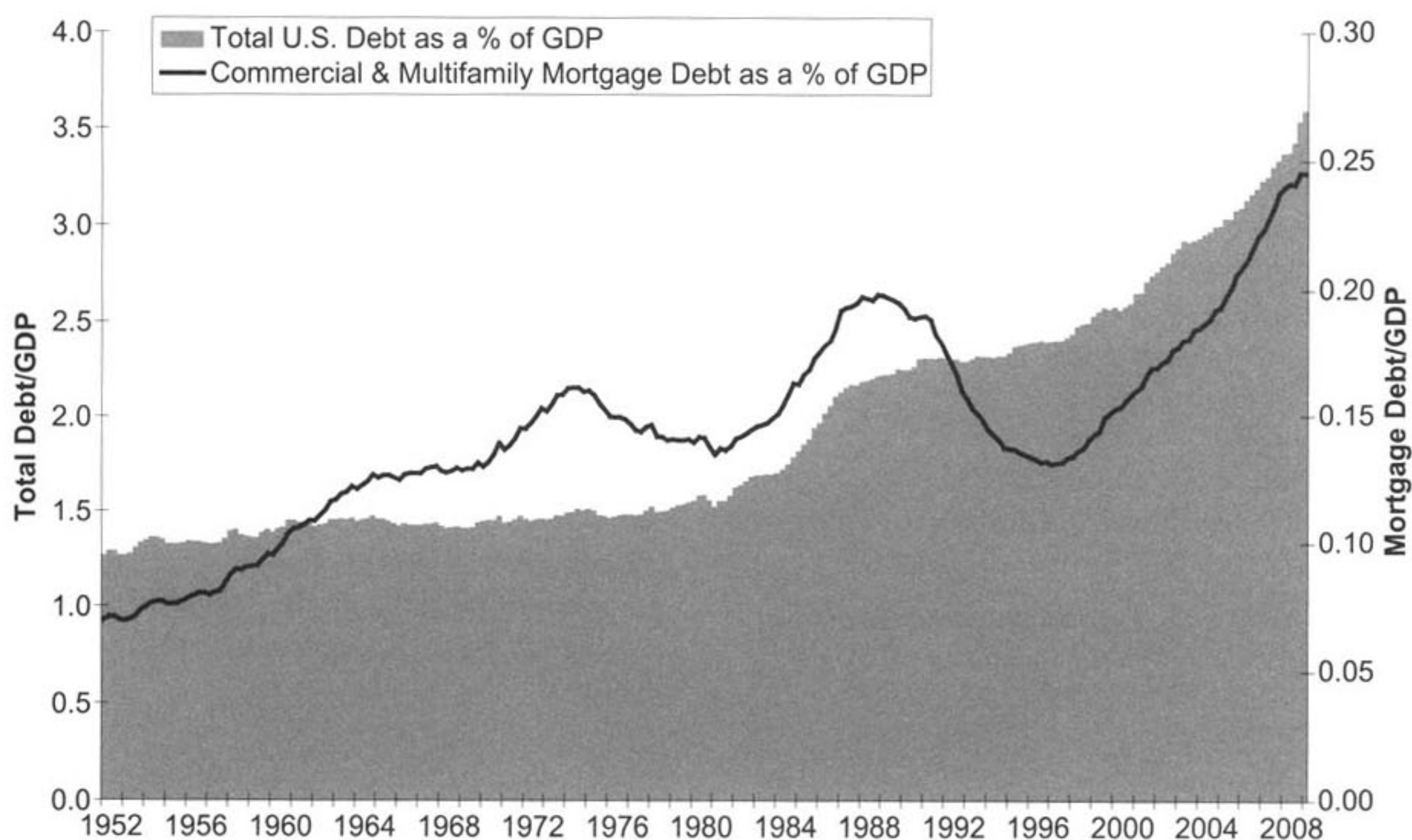
Much of the recent increase in real estate leverage was attributable to lending programs operated to generate “product” to be securitized and sold via CMBS and commercial real estate collateralized debt obligations (CRE CDOs) (Exhibit 3).⁸ In 2006 and 2007 these instruments were characterized by increasing complexity in security design and funding sources as well as lax underwriting by both lenders and credit rating agencies.⁹ Investors in property equity were able to obtain higher amounts of leverage at very little incremental cost. As a result, the weighted-average

cost of capital declined, buyers were willing and able to bid asset values up, and the price-setting buyer tended to be private equity funds with discretion to make highly leveraged deals. Trading/flipping, rather than owning/operating, seemed to become the most profitable way to participate in the market, as soaring real estate transaction volumes appeared to signal an end to worries about illiquidity.

As property prices rose and the sharp decline in cap rates that began in 2002 continued into 2005 and 2006, there was considerable debate about whether this was due to a permanent repricing of the real estate asset class, due to its status as a more mainstream accepted asset class, or a short-term capital flow phenomenon with too many investors chasing too little product and bidding prices up. Research undertaken during the 2002–2007 real estate upswing generally concluded that rising property valuations could be explained by market fundamentals and rational pricing of real estate relative to other asset classes (e.g., Chen, Hudson-Wilson, and Nordby [2004]). Moreover, the repricing of risk and resulting reductions in risk premiums and spreads was a market-wide phenomenon

EXHIBIT 2

Total and Income-Property Debt Outstanding as a Percent of GDP

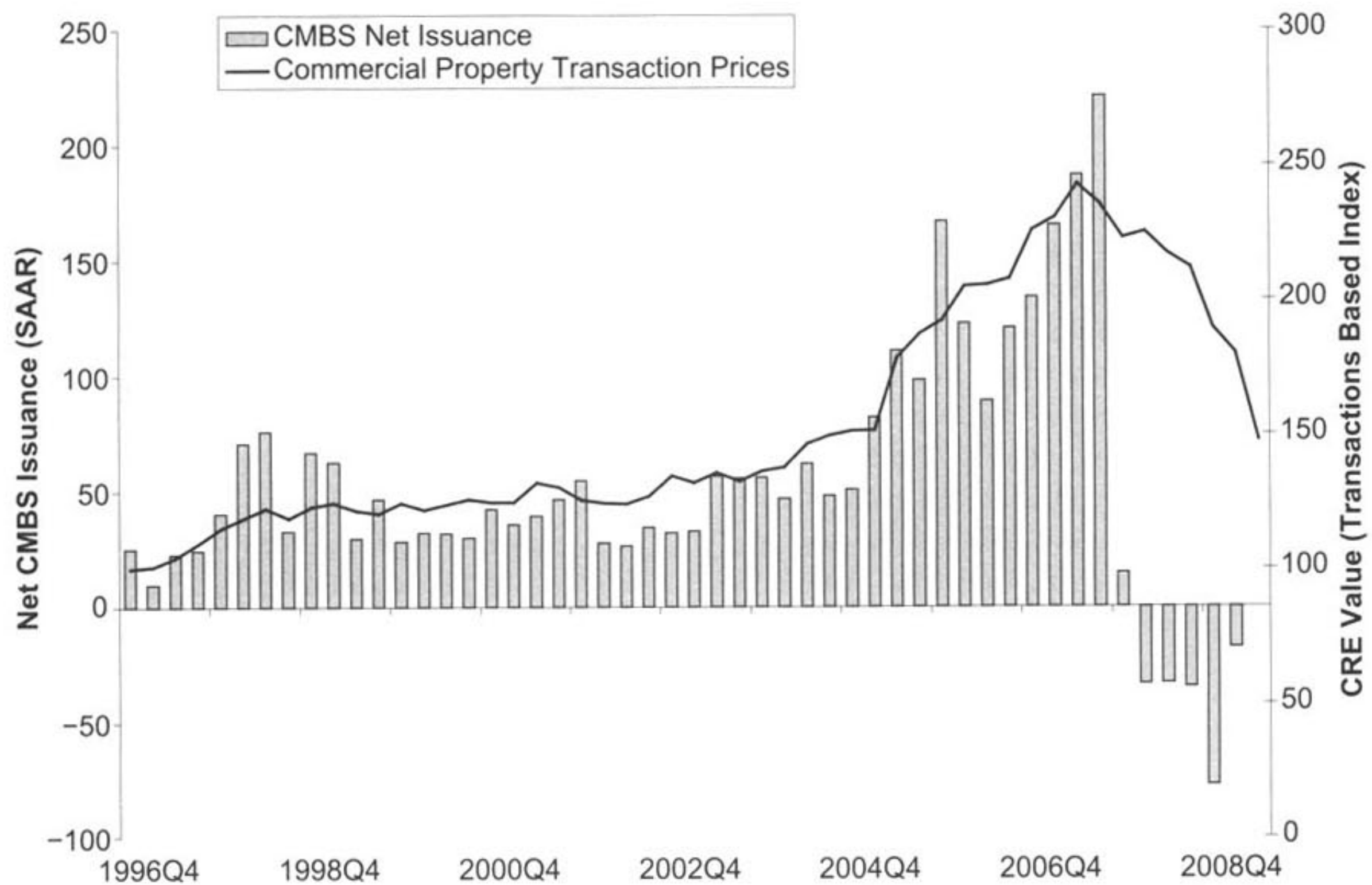


Note: Series extend through 1Q09.

Source: Authors' analysis based on Federal Reserve Board Flow of Funds and Bureau of Economic Analysis data.

EXHIBIT 3

CMBS Net Issuance and Income-Property Prices



Note: CMBS data through 1Q09 and property price data through 2Q09.

Sources: Federal Reserve Flow of Funds data; MIT Center for Real Estate (based on NCREIF data).

affecting all risky asset classes, not just real estate. More recent research has documented a significant investor “sentiment” factor in property pricing at the peak of the latest market upswing, related to mortgage debt flows (Clayton, Ling, and Naranjo [2009]). Two articles in this issue, Peyton [2009] and Chervachidze, Costello, and Wheaton [2009], add to the literature on commercial property pricing and provide post-crisis perspectives about the importance of broader capital market factors and debt flows on property pricing, as reflected in cap rates.

Peyton [2009] develops an econometric model that demonstrates the integration of commercial real estate into the larger capital markets. She finds that fluctuations in national NCREIF transaction cap-rate spreads to 10-year Treasuries are well explained by changes in key macroeconomic, capital market, and real estate market fundamentals, with debt flows and, in particular, corporate bonds spreads (corporate risk premium), being important drivers over the short term. Peyton posits, however, that many real estate market participants did not appreciate the tighter linkages between real estate and the

capital markets, citing, as an example, the subprime residential mortgage mess’s triggering of a credit market disaster, while commercial cap rates reflected the crisis with a multiquarter lag. The relationship between real estate cap rates and corporate bond yields inverted in 2005, and certainly suggests that real estate pricing had become too aggressive. Corporate bond yields spiked as the grip of the credit crisis took hold, while the adjustment in cap rates initially lagged behind. Peyton illustrates how her model can be used to forecast future cap rates at the national level.

Chervachidze, Costello, and Wheaton [2009] also find that the addition of the corporate risk premium and the amount of debt in the economy add significant explanatory power to traditional cap-rate models. Their analysis differs from Peyton’s in that they model metro-level cap rates and test for structural shifts in cap-rate drivers in an attempt to identify distinct periods of overly optimistic investor sentiment. The authors find evidence of distinct structural shifts that are related to debt flows (a liquidity proxy) and conclude that investor sentiment pushed property prices too low in the early 1990s and

too high in the latest upswing relative to underlying intrinsic value.

The findings of Chervachidze, Costello, and Wheaton are consistent with a number of papers in the emerging academic behavioral finance literature proposing that market-wide liquidity is an indicator of investor sentiment.¹⁰ That is, aggregate liquidity is an indicator of the relative presence of sentiment-based traders in the market place and, therefore, the divergence of asset price from fundamental value. Abnormally high aggregate liquidity is evidence of overvaluation and, in fact, forecasts a future downturn in asset prices. These types of models rely on both the presence of uninformed or overenthusiastic investors and limits to arbitrage, such as the inability to short sell property, that restrict the ability of sophisticated investors to enter the market and eliminate mispricing. If smart-money investors believe that property is overvalued they are either forced to the sideline or they sell into the excessive enthusiasm and wait for the opportunities when the market turns.¹¹ The large number of portfolio and public-to-private REIT transactions that transpired near the peak of the market represents innovative ways to sell into the sentiment on a large scale.

Real estate liquidity and investor sentiment emerged as crucial, related factors that served to bring together easy mortgage money and property values. Given the pro-cyclical, yet mean-reverting, nature of private market liquidity, this should have been a signal for lenders, rating agencies, and investors in CMBS and CRE CDOs to demand tighter underwriting, higher levels of loss protection, and more-transparent securitization structures in order to help reduce the amplitude of the boom-and-bust cycle and the magnitude of their losses in a downturn. Instead, the opposite transpired and, according to the president of the Federal Reserve Bank of San Francisco, a “Minsky Meltdown” took place with “borrowers, lenders, and regulators lulled into complacency as asset prices rise” (Yellen [2009]). The end result was a pro-cyclical, positive feedback loop between mortgage loan proceeds, terms, underwriting criteria, ratings, and property values that spun out of control.¹² The fallout helped push the real estate sector into a painful period of deleveraging and balance-sheet-repair-induced value decline.

To estimate the fallout in the CMBS market and the kind of risk-adjusted returns that might be available through investment opportunities in existing and new CMBS bonds, Corcoran [2009] examines the historical

performance of commercial mortgage defaults and seeks to draw inferences about CMBS defaults in the current downturn. Corcoran’s article is written as a primer for investors who are considering investment in CMBS at or near the bottom of the current cycle.

Nowhere to Hide: The “Failure” of Diversification

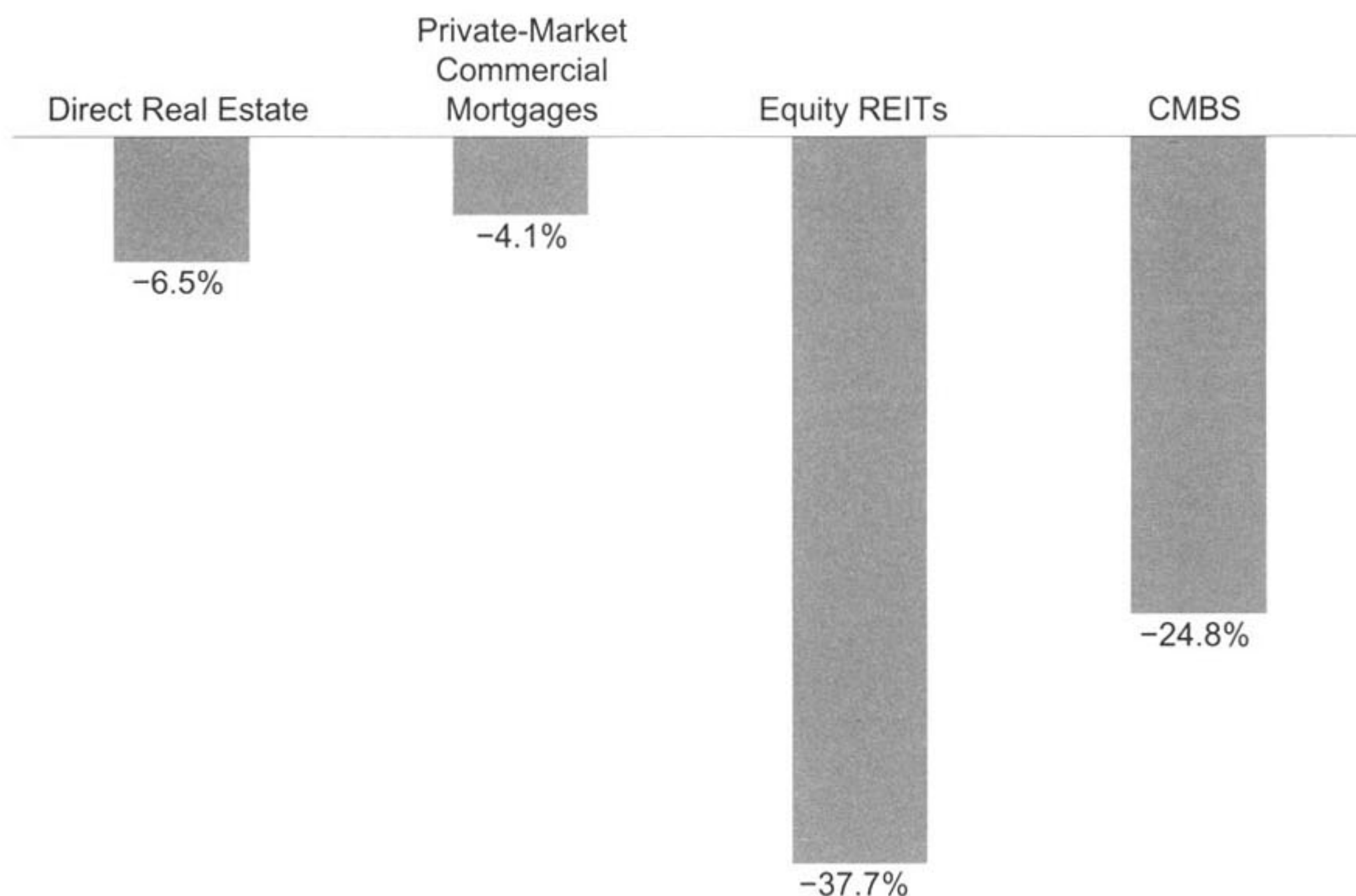
In the canon of financial literature, diversification is one of the most fundamental concepts, yet real estate’s independence from other asset classes was called into question when correlations spiked across nearly all forms of risky assets, specifically between real estate and the other major asset classes during the heat of the crisis. The collapse of stock prices, including REITs, the widening of credit spreads, and the freeze-up of the private equity real estate market all happened concurrently in the third and fourth quarters of 2008. Few investment strategies, whether equity or debt focused, offered positive results in 2008 after accounting for mark-to-market valuations (Exhibit 4).¹³ The spike in correlations continued well into the first quarter of 2009 and was observed internationally.

The coincident decline of returns, both across asset classes and across structures and styles within asset classes, left many investors concerned and wondering what became of the downside portfolio protection that diversification was supposed to provide. Some even declared diversification had died as a useful concept. Although investors are justified in their concerns about future portfolio construction, announcements of the death of diversification are greatly exaggerated. It is crucial to put the current situation into perspective and also carefully evaluate whether the underlying drivers of strategic asset allocation, whose benefits are structured to meet long-term goals, have changed in any fundamental ways.

The historic record shows that the six-month period from September 2008 to February 2009 was truly an aberration for both public and private markets. Fei, Ding, and Deng [2010] have looked at 20 years of U.S. REIT data and examined the time-varying and asymmetric aspects of both correlations and volatility. Their analysis of correlation dynamics shows that REITs produce higher returns at times when their correlations with the S&P large-cap indices are low. They find that the reverse is also true (high correlations are associated with lower REIT performance), and this is exactly what happened during the credit crisis.¹⁴

EXHIBIT 4

Total Returns on Private and Public Real Estate Equity and Debt, 2008



Notes: Direct real estate is unleveraged property as measured by the NCREIF Property Index; Private-market commercial mortgages are fixed-rate senior loans as measured by the Giliberto–Levy Index; Equity REIT total returns are from NAREIT; CMBS is a market-value-weighted composite of Barclay’s Capital Investment-Grade and High-Yield CMBS indices.

The fourth quarter of 2008 and the first quarter of 2009 were major outliers for private real estate performance vis-à-vis other asset classes as well. Borrowing from Giliberto [2009], Exhibit 5 plots historical returns for unleveraged private real estate and a balanced portfolio composed of stocks (60%) and bonds (40%). The third quarter of 2008 was the first period in three decades of NCREIF returns in which U.S. commercial real estate and a 60/40 stock and bond portfolio simultaneously produced negative total returns, as shown in the lower-left quadrant of Exhibit 5, Giliberto [2009] labels the “Diversification Death Zone.”¹⁵ And following on this extremely negative performance, fourth quarter 2008 produced the most extreme “double negative” ever.¹⁶

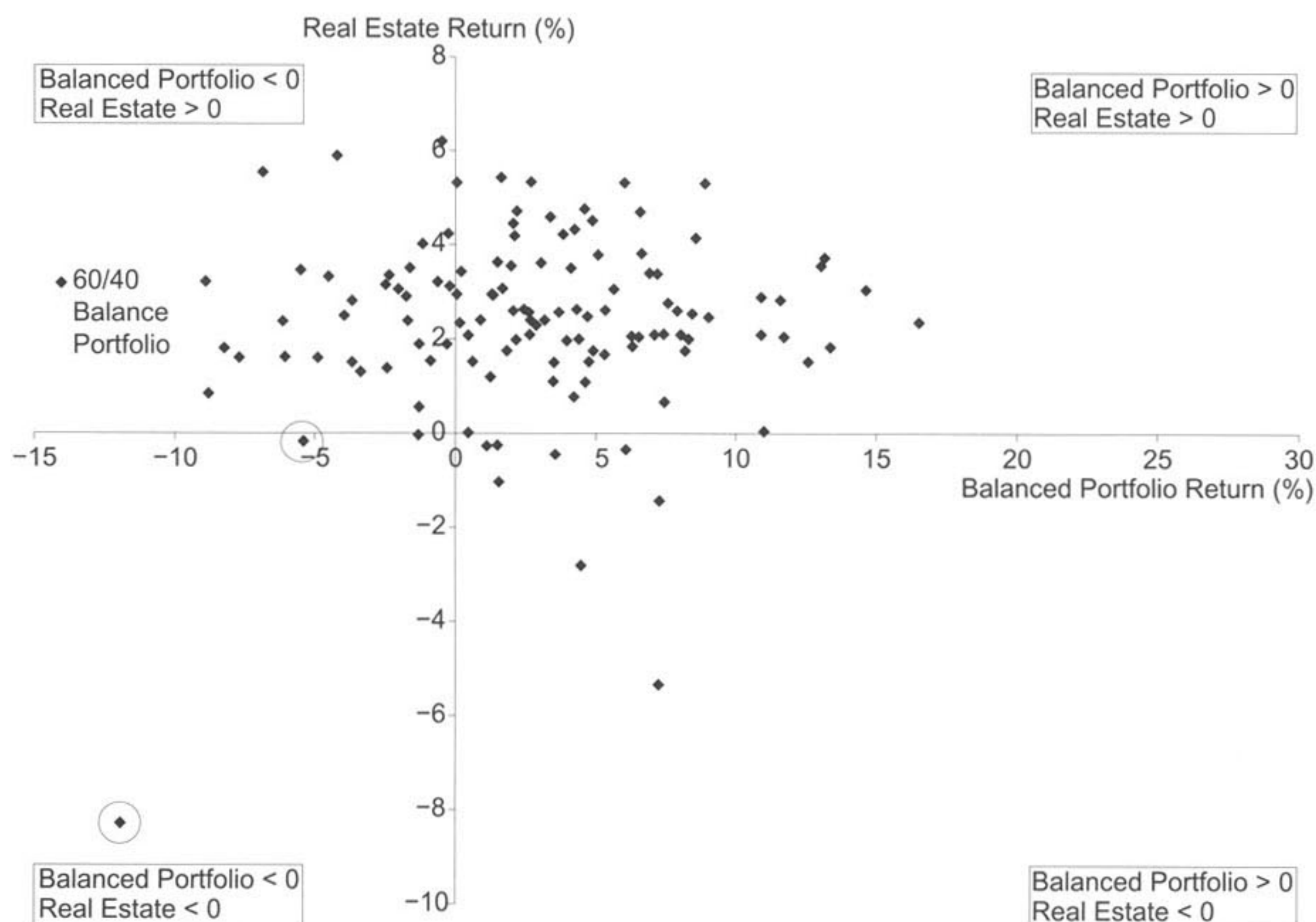
Not surprisingly, levered investments in properties generally fared much worse than similar investments that did not use debt during these two historic quarters. Evidence also suggests a meaningful vintage-year effect, with assets purchased at the 2006–2007 peak of the debt market/credit expansion most exposed to significant declines in value. Results from defensive plays, such as

making mezzanine debt loans at the asset level rather than owning leveraged equity in the same asset, have been mixed. Some positions have held up fairly well from a cash flow perspective, although they have experienced significant valuation declines. Other positions have effectively turned into highly leveraged equity with dramatic reductions in value or been entirely wiped out due to falling asset values and eroding cash flows.

Despite the uncommon commonality of asset class returns witnessed in late 2008 and early 2009, we do not think the strategic rationale for investing in property in its various forms has been permanently altered by the credit crisis. The underpinning for this argument is twofold. First, at the overall portfolio level, the goal of diversification is to protect against idiosyncratic asset-class-specific risks, but not risks that are common to all risky asset classes (i.e., systematic risk). The high correlation of risky asset returns in the heat of the credit crisis was, however, driven by a price risk factor related to the bank-run-like flight to quality and liquidity that impacted all

EXHIBIT 5

Total Returns on a 60/40 Balanced Stock/Bond Portfolio and U.S. Commercial Real Estate, quarterly data from Q1 1978–Q4 2008



Note: This exhibit plots the quarterly total return from a balanced portfolio consisting of 60% Dow Jones Wilshire 5000 Index (stocks) and 40% Barclays Capital Aggregate Index (bonds) against the same quarter's total return from the NCREIF Property Index. The balanced portfolio return is measured on the horizontal axis, and the real estate performance is on the vertical axis. Circled data points are third and fourth quarter 2008 results.

Based on data from Dow Jones Wilshire, Barclays Capital, NCREIF.

Source: Giliberto [2009].

risky assets, especially those viewed as being more liquid, such as stocks, including REITs, and publicly traded bonds, that could be sold quickly. Second, the credit dislocation did not alter the fundamental dynamics of the real estate earnings cycle. Exhibit 6 shows that in comparison to corporate earnings, earnings from real estate tend to 1) lag turning points in corporate operating earnings and the economy, 2) exhibit smaller peak-to-trough percentage declines, and 3) have more extended earnings “bottoms.”¹⁷

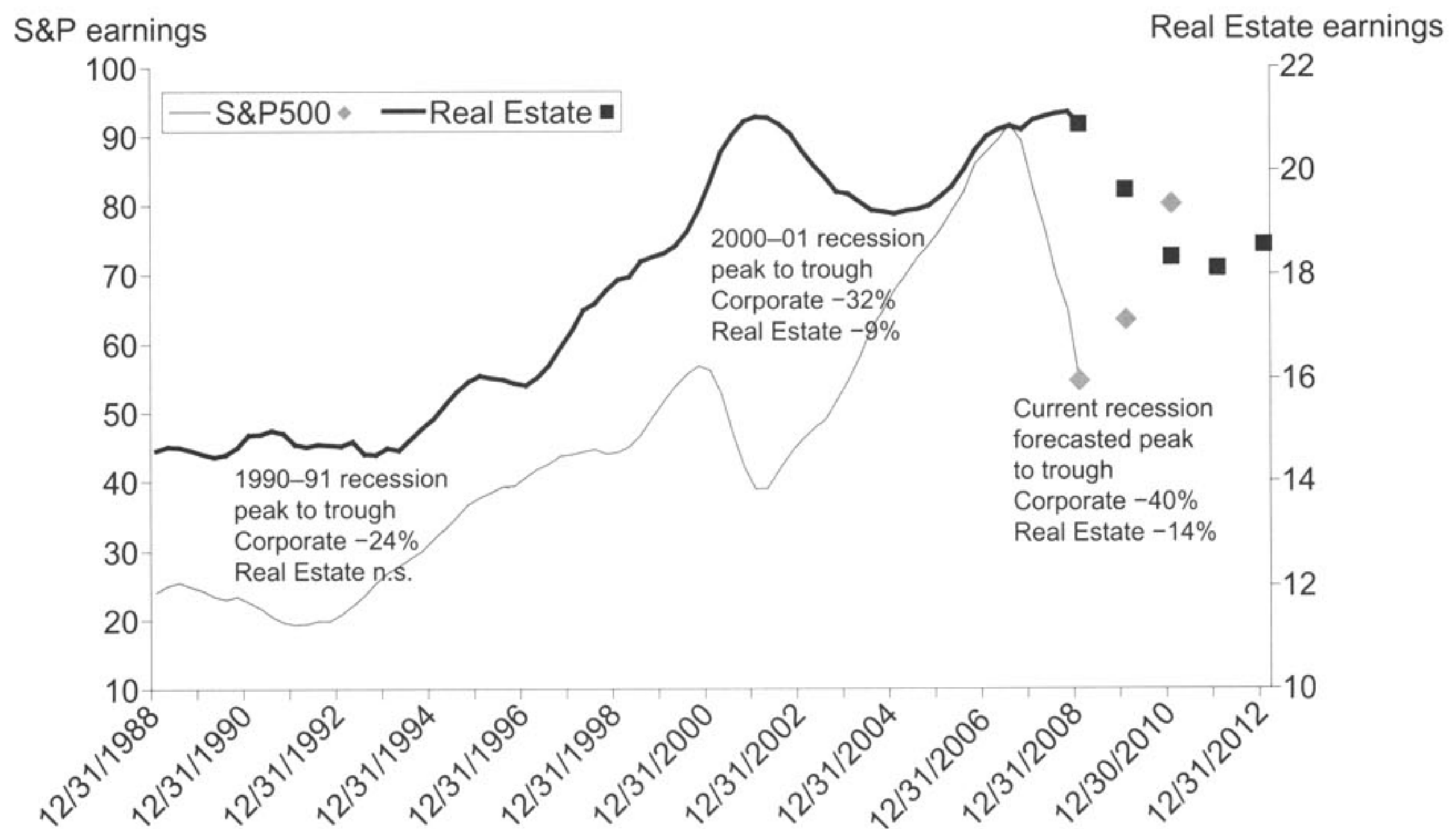
The severity of the economic downturn on commercial property is reflected in the anticipated peak-to-trough earnings decline. It encapsulates important factors, such as employment and retail sales, that have been affected by the recession. Because we don't see an alteration in the

dynamics of the earnings cycle, we don't envision significant operational changes—the business of commercial real estate includes managing properties and portfolios through cycles. For example, as owners compete to fill their available space they offer greater inducements, such as periods of “free” rent and higher allowances for tenant improvements (the cost of building out or refurbishing space in conjunction with a new or extended lease), to prospective tenants. At the portfolio level, for example, this increases the need to retain earnings to plow back into buildings, thereby reducing free cash flow and portfolio liquidity.

Importantly, proceeding from the view that the dynamics of the earnings cycle have not been altered, the crisis does not mandate a shift in investors' long-term

EXHIBIT 6

Commercial Real Estate and Corporate Operating Earnings



Note: Solid lines represent actual historical results. Individual points are projections. S&P 500 earnings projections are consensus estimates from First Call as of late February 2009. Real estate forecasts were produced by JPMorgan Asset Management in March 2009.

Based on data from First Call; S&P; NCREIF; JPMorgan.

Source: Giliberto [2009].

equilibrium risk and return expectations for core direct real estate, which will likely continue to be roughly midway between publicly traded bonds and stocks. It is possible that expected correlations will be somewhat higher as investors incorporate the Diversification Death Zone experience into their assumptions, but this reset will still produce moderate (0.3 to 0.5) anticipated correlations between financial assets and direct property. Consequently, strategic allocations to property should not change much, if at all.

Although the majority of institutional investors are unlikely to make major changes in how they approach real estate as an asset class, most are reassessing assumptions about modern portfolio theory and market efficiency and seeking a deeper understanding of risk within real estate portfolios, with the aim of improving the effectiveness of actions to anticipate, monitor, and manage risk. Several articles in this issue address important topics relevant to this reassessment.

Innovations in Real Estate Portfolio Risk Measurement and Management

The credit crisis has served to highlight how a deceptively simple concept, such as diversification, can have many layers of complexity. Just as investors took decades to fully understand and incorporate the foundational work of Harry Markowitz in 1952, recent events suggest there is still much to learn about how real estate performs under various scenarios—some of which have just been experienced during the credit crisis, and some of which lie in the future waiting to be experienced. Four author teams, three of which are included in this issue—Cheng, Lin, and Liu [2010], Fuerst and Marcato [2009], Fabozzi, Shiller, and Tunaru [2009], and Horrigan, Case, Geltner, and Polakowski [2009]—are helping to fill this knowledge gap.

Awareness has been growing, with a speed that has picked up considerably since the onset of the financial crisis, that there are important sources of nonvolatility risk relevant to private real estate equity investment risk, and that return volatility and covariance are no longer

sufficient to capture the full complexity of real estate risk.¹⁸ Building from the premise that the inability to rigorously quantify and price illiquidity risk causes deep concerns about the credibility of institutional real estate performance when compared to financial assets for the purpose of portfolio-allocation decision making, Cheng, Lin and Liu [2010] have devised an innovative theoretical method to quantify liquidity risk and combine it into a single-price risk factor; this method makes for a more meaningful comparison with financial asset returns. The authors push the knowledge frontier in a direction it must go. It is well known that private real asset markets do not conform to the frictionless, highly liquid, symmetric-return assumption ideals that many financial assets approximate. This awareness has not typically stopped investors, however, from applying classical finance theories and mean-variance optimization techniques to prescribe “optimal” portfolio weights to various asset classes, including real estate, often with ad hoc downward adjustments to account for nonvolatility risk factors, such as liquidity and reduced transparency. The new risk metric proposed by Cheng, Lin, and Liu provides added rigor to the analysis of real estate class risk and also potentially to the discussion of real estate portfolio diversification both by formalizing the notion that real estate risk is dependent on investors’ property holding periods and by suggesting that investment strategies that reduce portfolio illiquidity risk need to be considered in conjunction with more typical diversification strategies aimed to reduce portfolio-level return volatility.

Shifting from asset class risk measurement and a strategic portfolio-allocation perspective toward a more tactical monitoring of real estate risk, Horrigan, Case, Geltner and Pollakowski propose an interesting method for inferring and tracking private real estate market performance directly from public (i.e., liquid) REIT prices. Using a pure-play methodology, the authors regress high-frequency individual REIT-level returns on the underlying holdings of the individual REITs to derive “pure” property-type-specific REIT indices. Because public REIT prices tend to lead private market valuations, the resulting indices provide private market investors with insight into where property returns are likely headed at the property-sector level. By monitoring such pure-play REIT indices, investors may be able to improve the effectiveness of tactical or rotation acquisition, disposition, and portfolio-rebalancing decisions.

The pure-play indices developed by Horrigan, Case, Geltner, and Pollakowski may also prove useful in helping

to further the development of the nascent property derivatives market in the U.S.¹⁹ The U.S. institutional real estate market was just entering the modern world of futures and derivatives, which has been available for years to investors wishing to hedge in other asset classes, when the credit crisis hit. The duration and the severity of the downturn, with the resulting impact on real estate portfolio liquidity and returns, has no doubt stirred new interest in property derivatives, particularly the ability to protect real estate portfolios on the downside, and thereby providing added flexibility in executing real estate investment and portfolio risk management strategies.

Fabozzi, Shiller, and Tunaru provide a detailed update and evaluation of the state of affairs in the derivatives markets related to real estate indices. The authors review the role of property derivatives in real estate investment and risk management. They also describe the development of real estate-related derivative instruments, as well as indices upon which derivatives can be written, in both the residential and commercial property markets for both debt and equity. Issues related to the pricing of property-related derivatives, which account for the unique features of real estate asset markets, are also addressed by the authors. They offer frontline insights into the obstacles that may prevent the market from reaching its potential, including the difficulty of establishing a swap market in illiquid private asset markets that are characterized by somewhat predictable returns.

Moving back to bricks and mortar and deeper into the real estate portfolio, Fuerst and Marcato use the world’s most detailed commercial real estate dataset to expand our understanding of how diversification works within real estate. Their analysis of “style” (using IPD data from the U.K.) shows how attributes, such as market cap, high-versus-low yield, tenant base, and lease length explain much more about real estate performance than traditional sector analysis based on geography or property types. Although the credit crisis undoubtedly overwhelmed these style distinctions for a short period of time, it seems reasonable to assume that these basic differences in property performance will reassert themselves in a post-credit-crisis world.

International Real Estate

Asset allocators still routinely recommend investing in international stock and bond markets, even though global diversification turned out to be a huge

disappointment during the dark days of the 2008–2009 crisis. Yet, as the world emerges from the first global recession (in 60 years of International Monetary Fund record-keeping), it is clear that different countries still offer very different combinations of risk and return to global investors. Throughout the first decade of the new millennium, real estate investors continued to expand their horizons by taking positions in international real estate. Two articles in this issue—D’Argensio and Laurin [2009] and Kapas and Liang [2009]—focus on the investment thesis that emerging markets should provide an interesting alternative for real estate investors.

D’Argensio and Laurin examine the relationship between cap rates in emerging and developed markets. They find clear relationships between real estate yields and country risk measures, such as government bond yields and qualitative measures of transparency.

Kapas and Liang develop a methodology for estimating the size of the middle and affluent classes in emerging markets. Their principal thesis is that middle-income and affluent households drive the demand for institutional-quality commercial real estate in emerging markets. The results of their estimation procedure, however, surely have implications for non-real estate investments as well.

The Nature of Evolutionary Change

Evolutionary biologists believe that the term “punctuated equilibria” best describes the jolting changes and mass extinctions that are evident in the fossil record.²⁰ These scientists have come to understand that “evolution” in a paleo-biological sense is anything but a smooth, gradual process. Surely, this same understanding of evolutionary change also applies to the relatively young and still-evolving world of real estate portfolio management. Whether we want to think of the credit crisis as an exogenous event, like an asteroid, or an endogenous event, like global warming set in motion through the overly successful domination of one species, there can be no doubt that the eco-system of real estate money management will continue to evolve in fits and starts. The authors and editors of this special issue invite you to explore how the industry is likely to adapt to the dramatic changes taking place in the financial world today and in the years to come.

ENDNOTES

¹Gorton [2009] provided a detailed discussion about how the current crisis has its roots in the transformation of the banking system that was driven by two fundamental changes in global capital markets—exponential growth in derivatives markets and securitization.

²Reinhart and Rogoff [2008] detailed that economic downturns associated with credit crises are not uncommon. In fact, capital flow–default cycles have been around since at least 1800 and “the ability of governments and investors to delude themselves, giving rise to periodic bouts of euphoria that usually end in tears” seems to have remained a constant. And Kindleberger [1978] wisely titled the first chapter of his classic book, *Financial Crisis: A Hardy Perennial*.

³We used December 31, 1997, as the index base because that is approximately when home price increases, measured by the S&P/Case Shiller 20-City Index, began to diverge from per capita personal income growth, which we believe serves as a natural governor or trend rate of change for house prices.

⁴Vandell [2009] examined some of the same questions addressed by Gyourko [2009], but his analysis is more of a market-microstructure approach applied to the residential and commercial mortgage markets. Similar to Gyourko, he reported finding the existence of a number of systemic factors common to both the commercial and residential markets, but the very different structure of the commercial mortgage market on a variety of dimensions implies a different pattern of response over time in certain dimensions.

⁵Importantly, these indices reflect national averages. Individual metropolitan areas may exhibit significant dispersion, both in magnitude and timing of value changes relative to the average.

⁶This section is based on Giliberto’s [2009] historical account of the relationship between real estate cycles and the broader economy in past business cycles. A particularly interesting observation made by Giliberto is that commercial real estate seems to be hard hit, as distinct from suffering mild pain, in “every other” recession; commercial property was hit hard in the 1973–1975 and 1990–1991 recessions, but not so much in the early 1980s or in 2000–2001 following the tech collapse, and is obviously being hit hard again now.

⁷Past special real estate issues of this journal also contained a number of articles detailing the dangers of excessive financial leverage. See, for example, Anson and Hudson-Wilson [2003], Gordon and Tse [2003], and Pagliari [2007].

⁸See Brunnermeier [2009] for more on how the trend toward the “originate and distribute” model ultimately led to a decline in lending standards, and also an exploration of the economic mechanisms through which the residential subprime mortgage crisis amplified into a severe financial crisis.

⁹Jacob and Manzi [2005] raised concerns over CMBS structures and underwriting in the 2005 special real estate issue of JPM.

¹⁰Baker and Wurgler [2007] summarized recent work in this area directed at the stock market.

¹¹Or one can possibly short real estate using return swaps. Total return swaps are described in Fabozzi, Shiller, and Tunaru [2009] in this special issue.

¹²Clayton [2009] detailed how a combination of competitive pressures and underappreciation of the impact of financial leverage on required equity returns can lead lenders to underprice default risk and increase debt supply as property prices and transaction activity increase.

¹³Shorting REIT shares and CMBS, using swaps, index, and/or ETF trades, was an exception; however, such trades were more likely to be executed by hedge funds than traditional real estate investors, such as pension funds and insurance companies.

¹⁴This finding is significant in that the authors' dataset stopped in May 2008 just before the most striking example of high correlations and poor performance was registered in the equity and REIT markets later in the calendar year.

¹⁵A similar result is found if stocks and bonds are plotted separately instead of using a blended portfolio.

¹⁶Inker [2008] and Sargen, Finn, and Ulbricht [2009] provided insightful evaluations of the claim that diversification is dead and concluded that the asset allocation offered little downside protection to the bursting of a global credit bubble that built up over a number of years as investors were lulled into complacency by more than a decade of steady economic growth, low inflation, and record wealth creation.

¹⁷We attribute these stylized facts to the prevalence of multiyear leases in most commercial property sectors and the effect of underlying financial leverage on corporate earnings. We estimated real estate earnings on an unleveraged basis.

¹⁸While public markets adjust quickly to shocks and do so primarily through price, private asset markets adjust through both liquidity and price that are jointly determined. Return indices that track valuations, either via appraisals or a sample of transactions, by their very nature capture the adjustment in both price and liquidity, not just price as in public market performance indices.

¹⁹The U.K. has a more developed commercial property derivatives market, and institutional property investors have been active users.

²⁰See Eldredge and Gould [1972]. Lo [2002, 2004] argued persuasively for an adaptive, evolutionary model approach in finance that combines elements of the efficient markets hypothesis and behavioral finance which he refers to as the *adaptive market hypothesis*.

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