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RESIDENTIAL REAL ESTATE: AN ASSET CLASS WITH UNIQUE PROPERTIES

Managers of institutional and individual investment portfolios typically seek diversification across a range of asset classes – domestic stocks and bonds most prominently, but also international equity, real estate, and commodities. Residential real estate, however, is often overlooked as a potentially investable asset class.

This is a natural omission. Most residential real estate in the United States is owner-occupied, which means that it is not available for purchase by investors. Moreover, residential real estate suffers from limited liquidity, a cumbersome settlement and clearing process, asymmetric price movements, and significant asset-holding costs.

Although diversified direct investment in residential real estate may be difficult or impossible to achieve, there are ways for investors to gain exposure indirectly.

Understandable though it may be, this omission is unfortunate. Residential real estate is a sizable asset class. With a value of USD 16.0 trillion[1], residential real estate represents a larger pool of assets than the USD 11.4 trillion[2] encompassed by the S&P 500®. Furthermore, residential real estate exhibits low correlation with other asset classes while producing reasonable returns with relatively low dispersion. If portfolios were able to invest in residential real estate, it's possible that investors' risk-return tradeoffs could improve.

Although diversified direct investment in residential real estate may be difficult or impossible to achieve, there are ways for investors to gain exposure indirectly. For example, the Chicago Mercantile Exchange trades futures contracts based on the S&P/Case-Shiller[3] Home Price Indices, and other financial innovators are actively developing other investable vehicles linked to the S&P/Case-Shiller Indices. These innovations are encouraging since investor access to residential real estate would be a positive evolutionary step.

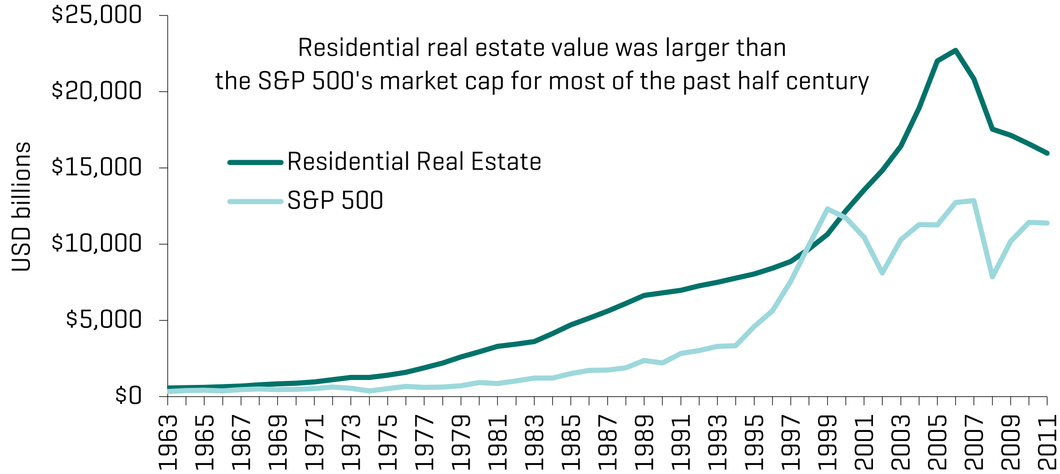
Background

For most of the past five decades, residential real estate has accounted for a larger pool of assets than the S&P 500. Since 1963, it has represented about twice the market capitalization of the S&P 500, trailing for only the brief period during the technology stock bubble from 1998 to 2001. As seen in Exhibit 1, the smoothness of real estate's market cap growth path over the past half century suggests the underlying asset's relatively even long-term performance. By contrast, the growth path of equity market cap is a jagged reflection of underlying stock market volatility.

S&P Practice Essentials Series is a curriculum based, educational program covering selected financial markets, asset classes and indexing concepts.

[1] Value of owner-occupied real estate. Source: Federal Reserve Flow of Funds, December 31, 2011.
[2] Market capitalization of the S&P 500 as of December 31, 2011. Source: Standard & Poor's.
[3] Case-Shiller® and Case-Shiller Indexes® are registered trademarks of Fiserv, Inc.

Exhibit 1: Comparison of the Residential Real Estate Market and the S&P 500



Sources: The Federal Reserve; S&P Indices. Data as of December 31, 2011. Charts and graphs are provided for illustrative purposes only. Indices are unmanaged statistical composites and their returns do not include payment of any sales charges or fees an investor would pay to purchase the securities the index represents. Such costs would lower performance. It is not possible to invest directly in an index. Past performance is not an indication of future results.

Residential real estate values can be extensively documented across up to three and a half centuries of American history. In contrast, the oldest equity and fixed income indices generally offer a century or less of price performance history.

Residential property also boasts a wealth of historical data. Real property records in many communities show chains of transaction pricing dating back to the historical origins of the communities — including colonial-period antecedents. Thus, residential real estate values can be extensively documented across up to three and a half centuries of American history. In contrast, the oldest equity and fixed income indices generally offer a century or less of price performance history.

A number of factors distinguish the real estate market from other financial markets, including:

- **Low liquidity** — In the residential real estate market, liquidity is very low by the standards of financial market trading.
- **Cumbersome settlement and clearing processes** — Listed stock in the United States is held in a single depositary location with centralized electronic records of ownership and transfer. Stock trades can be confirmed almost immediately and usually settled three days later; residential real estate, on the other hand, generally requires repeated exchanges of physical documents by legal specialists, necessitating a substantial investment of time and money.
- **Lack of pricing transparency** — In the stock market, current prices and bid-and-asked spreads are widely circulated. In real estate markets, the most consistent and reliable prices come from prior transactions. These data may be weeks or months old by the time they are published.
- **Asymmetric price movements** — In the short term, stock prices tend to move up and down more or less randomly. Residential real estate prices, on the other hand, tend to move up more readily than down. This is called downward “pricing stickiness” by economists Karl Case and Robert Shiller. Downward pricing stickiness occurs because sellers who do not receive offers in their desired price range tend to resist selling, and may even withdraw their property from the market.
- **Significant holding costs** — Real estate taxes and physical maintenance expenses can add materially to the cost of holding residential real estate investments.

Return and Volatility

As an asset class, residential real estate (as represented herein by the S&P/Case Shiller Home Price Index) has a unique performance profile, characterized by moderate, stable returns and low correlation to most other investable asset classes.

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Exhibit 2 provides some common performance metrics for residential real estate and several other asset classes over rolling five-year periods. While residential real estate has shown lower average returns than domestic equities and commodities, it also produces greater stability of returns. We see this statistically in the standard deviation of annualized returns, which is lower for residential real estate than for most of the better-performing asset classes. Furthermore, the spread between the best- and worst-performing five-year periods for residential real estate is roughly 30% less than that of the equity-oriented asset classes in the group.

Exhibit 2: Average Price Performance over Rolling Five-Year Investment Periods, 1988 to 2011*

	Residential Real Estate	U.S. Stocks	Intl. Stocks	Commodities	Long-Term Bonds	Cash	Inflation	Equity REITs
Average Annualized Return (60 Rolling Month Periods)	4.38%	9.48%	6.01%	5.95%	8.64%	4.11%	2.73%	11.32%
Highest 60-Month Annualized Return	14.42%	28.56%	24.05%	21.30%	15.22%	6.53%	4.29%	25.16%
Lowest 60-Month Annualized Return	-7.62%	-6.63%	-6.86%	-11.67%	3.97%	1.65%	1.88%	-8.64%
Spread (Highest minus Lowest)	22.04%	35.19%	30.91%	32.97%	11.25%	4.89%	2.41%	33.80%
Standard Deviation	6.57%	9.17%	6.31%	7.74%	2.14%	1.25%	0.50%	6.91%

Source: S&P Indices. Analysis based on monthly price returns from January 1988 to December 2011. Prior to April 2006, the S&P/Case-Shiller Home Price Index was known as the Case-Shiller Home Price Index. Charts and graphs are provided for illustrative purposes only. Indices are unmanaged statistical composites and their returns do not include payment of any sales charges or fees an investor would pay to purchase the securities the index represents. Such costs would lower performance. It is not possible to invest directly in an index. Past performance is not an indication of future results. *Domestic stocks are represented by the S&P 500, foreign stocks by the MSCI EAFE Index, equity REITs by the NARIET Equity index, commodities by the S&P GSCI, inflation by changes in the Consumer Price Index, long-term bonds by the Barclays Long-Term Bond index, and residential real estate by the S&P/Case-Shiller Home Price Index. Prior to April 2006, the S&P/Case-Shiller Home Price Index was known as the Case-Shiller Home Price Index.

Monthly data point to similar performance/risk patterns (see Exhibit 3). Between 1988 and 2011, U.S. residential real estate produced a 3.20% compound annual rate of return, roughly one-third that of the U.S. stock market. This return was achieved with a far lower level of volatility than equity investors experienced, as measured by the standard deviation of returns. The worst monthly return for residential real estate (-2.79%) was less than it was for equities (-16.79%), commodities (-28.20%), or even bonds (-8.94%). When we divide the mean monthly return by the standard deviation of returns to measure each asset class's risk-return tradeoff, residential real estate is superior to most of its competitors.

Exhibit 3: Annual Month-to-Month Price Performance Variation*

	Residential Real Estate	U.S. Stocks	Intl. Stocks	Commodities	Long-Term Bonds	Cash	Inflation	Equity REITs
Average Monthly Change	0.27%	0.85%	0.54%	0.72%	0.79%	0.33%	0.23%	1.00%
Standard Deviation of Changes	0.92%	4.32%	5.11%	6.10%	2.76%	0.20%	0.33%	5.46%
Mean Divided by Standard Deviation	0.29	0.20	0.11	0.12	0.29	1.64	0.71	0.18
Long-Term Annualized Returns	3.20%	9.45%	5.01%	6.54%	9.44%	4.08%	2.82%	10.62%
Best Monthly Return	2.29%	11.44%	15.61%	22.94%	12.30%	0.84%	1.22%	31.02%
Worst Monthly Return	-2.79%	-16.79%	-20.17%	-28.20%	-8.94%	-0.09%	-1.92%	-31.67%

Source: Standard & Poor's. Analysis based on monthly price returns from January 1987 to December 2011. Charts and graphs are provided for illustrative purposes only. Indices are unmanaged statistical composites and their returns do not include payment of any sales charges or fees an investor would pay to purchase the securities the index represents. Such costs would lower performance. It is not possible to invest directly in an index. Past performance is not an indication of future results.

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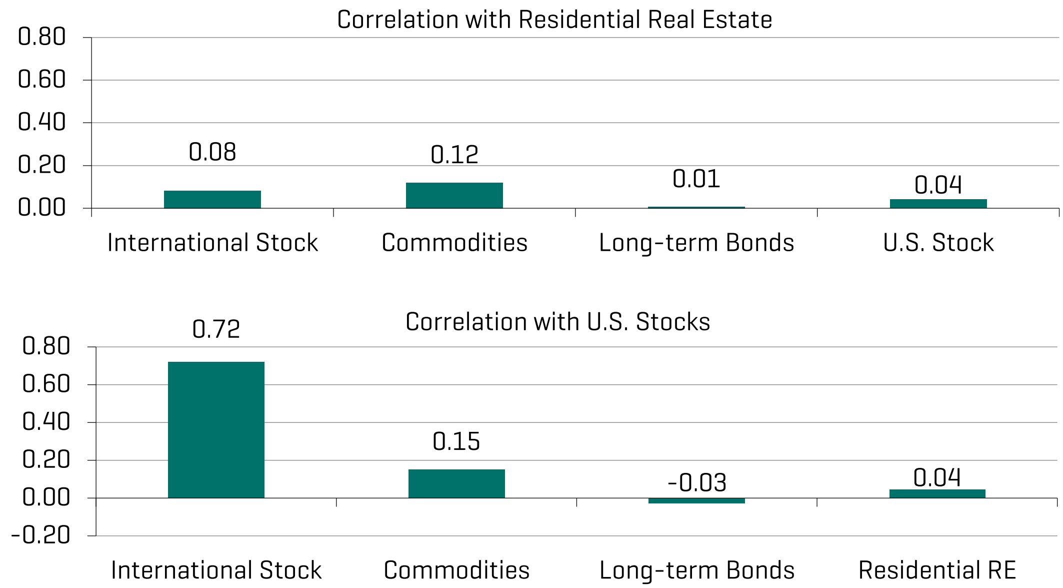
Correlation with Other Asset Classes

The correlation among asset classes is a key ingredient in the portfolio-building process since, other things equal, low correlations improve an investor's risk-return tradeoff. Exhibit 4 shows the correlation of the U.S. stock market and U.S. residential real estate with a number of other asset classes. Most notably, residential real estate exhibits a low correlation with most other assets. In contrast, U.S. equities show a higher correlation with international stocks and commodities. The performance of these asset classes seems to be at least broadly synchronized because many macroeconomic conditions impact them in the same way and at the same time.

Exhibit 4: Residential Real Estate Shows a Low Correlation with Other Asset Classes*



Source: Standard and Poor's. Correlations are based on monthly price behavior between January 1987 and December 2009. investment-grade bonds by the Barclays Aggregate Bond Index, cash equivalents by the yield on 3-month Treasury bills as reported by the Federal Reserve, equity REITs by the NARIET Equity index, and residential real estate by the S&P/Case-Shiller Home Price Index. Prior to April 2006, the S&P/Case-Shiller Home Price Index was known as the Case-Shiller Home Price Index. Charts and graphs are provided for illustrative purposes only. Indices are unmanaged statistical composites and their returns do not include payment of any sales charges or fees an investor would pay to purchase the securities the index represents. Such costs would lower performance. It is not possible to invest directly in an index. Past performance is not an indication of future results.

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One benefit of diversification with uncorrelated assets is the possibility that subpar performance in one asset class can be offset by above-average performance in another asset class. Exhibit 5, which is drawn from our database of rolling five-year returns, shows how this phenomenon played out during recent market history. Between 1995 and 1999, for example, the technology stock bubble inflated equity market performance in a series of record-setting years. Residential real estate, despite its positive return, would have been a drag on portfolio performance in those years. Between 1998 and 2002, however, real estate performed strongly while equities lost money. Shifting the window a little further forward (2001–2005), the equity market was virtually trendless and produced a small negative annualized return, while the real estate market set its own records. Of course, that period proved to be the start of a home price bubble. In the 2005 – 2011 period, stocks recorded modest positive returns, while home price returns were more substantially negative.

Exhibit 5: Differentiating Performance in Varying Market Conditions

Period		U.S. Domestic Equities	Residential Real Estate
1995-1999	Return	28.56%	5.27%
	Standard Deviation	4.83%	2.06%
1998-2002	Return	-0.59%	11.55%
	Standard Deviation	8.56%	3.04%
2001-2005	Return	0.54%	14.34%
	Standard Deviation	6.36%	1.92%
2006-2012	Return	-0.25%	-7.62%
	Standard Deviation	4.92%	8.48%

Source: Standard and Poor's. Performance is based on monthly price behavior during the indicated periods. Domestic stocks are represented by the S&P 500, residential real estate by the S&P/Case-Shiller Home Price Index. Prior to April 2006, the S&P/Case-Shiller Home Price Index was known as the Case-Shiller Home Price Index. Charts and graphs are provided for illustrative purposes only. Indices are unmanaged statistical composites and their returns do not include payment of any sales charges or fees an investor would pay to purchase the securities the index represents. Such costs would lower performance. It is not possible to invest directly in an index. Past performance is not an indication of future results.

Creating a Template for Investability

Broad national and regional price indices, and products linked to such indices, can provide exposure to the asset class without the difficulties of clearing and settling real estate trades and administering property holdings.

Returns on real property investments typically come from two sources: price appreciation and rental income. Approximately two-thirds of American households own their own homes, producing no rental income streams. Collective real estate investment vehicles such as REITs tend to focus on cash flows and, therefore, can provide meaningful exposure to only a few sectors of the real estate market. A broad national property price index, such as the S&P/Case-Shiller Home Price Index, however, can better identify trends in real estate price levels.

A simple comparison of average, or median, housing prices over time can be significantly distorted by changes in the makeup of the housing universe, or by shifting weights in the sales mix between periods. The S&P/Case-Shiller Home Price Indices' repeat sales methodology, in contrast, is designed to provide comparability of values over time. The S&P/Case-Shiller Home Price Indices include three composite indices (National, 10-City, and 20-City), as well as indices for 20 major metropolitan areas. Any of these indices can be used as the basis for futures and options or other synthetic instruments that seek to mirror the appreciation potential of residential real property.

Futures contracts on the S&P/Case-Shiller 10-City Composite Index and on the ten individual cities have been trading since 2006, albeit with relatively thin volume. Even so, some indicative patterns have emerged. Preliminary research has suggested that trading on this futures market does incorporate investors' assessment of price appreciation potential because there appears to be a steady trend of convergence between the futures price and the index value as contracts approaches expiration. The divergence between the index value and futures contract value can serve as a barometer of market sentiment about the direction and magnitude of future property value changes.

Conclusion

Residential real estate has a unique performance profile, characterized by moderate but stable returns and low correlation with other principal asset classes. Direct, diversified investment in residential real estate is costly and cumbersome. However, the existence of broad national and regional price indices, and products linked to such indices, can provide exposure to the asset class without the difficulties of clearing and settling real estate trades and administering property holdings.

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