S&P Dow Jones Indices

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RESEARCH
Real Estate

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The Impact of Rising Interest Rates on REITs

Over the past 25 years, real estate investment trusts (REITs) have emerged as a popular and efficient way for market participants of all stripes to access the real estate asset class. Strong long-term total returns, combined with other key investment characteristics such as liquidity, high dividend yields, and their potential to increase diversification and to hedge against inflation, have contributed to the appeal of REITs. Today, however, there is growing concern about how REITs will perform when interest rates ultimately rise from their current subdued levels.

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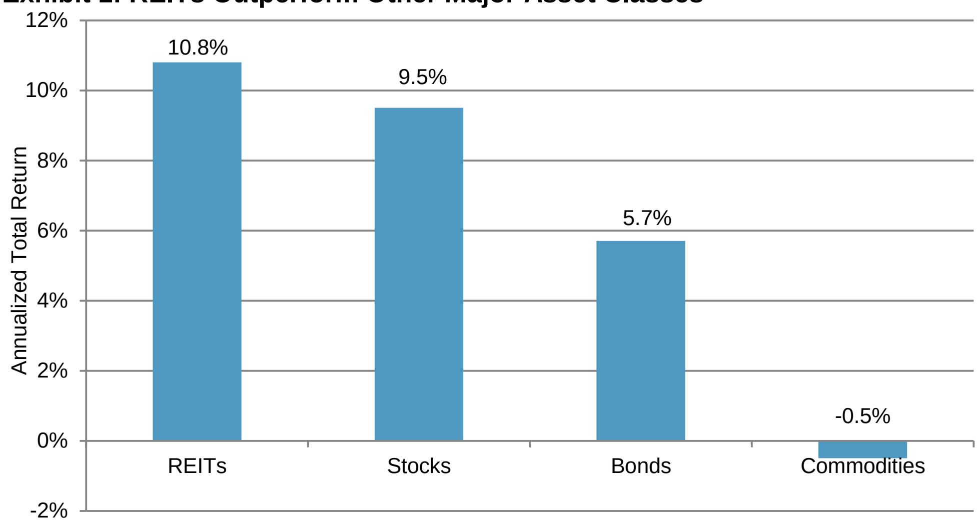
Exhibit 1: REITs Outperform Other Major Asset Classes



Source: S&P Dow Jones Indices LLC; Barclays Capital. Data from May 31, 1992 to May 31, 2017. REITs, Stocks, Bonds, and Commodities are represented by the Dow Jones U.S. Select REIT Index, the S&P 500®, Barclays Capital U.S. Aggregate Index, and the S&P GSCI, respectively. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

It is commonly asserted that REITs are destined to underperform when interest rates rise. However, an examination of the historical record suggests that this is a misconception. Although interest rates certainly affect real estate values and, therefore, the performance of REITs, rising interest rates do not necessarily lead to poor returns.

Since the early 1970s, there have been six periods during which 10-Year U.S. Treasury Bond yields rose significantly. In four of those six periods, U.S. REITs earned positive total returns, and in half of those periods, U.S.

REITs outperformed the S&P 500. In one of the periods, U.S. REITs and the S&P 500 essentially posted identical performances, and in only two periods did the S&P 500 outperform U.S. REITs (see Exhibit 2).

Exhibit 2: REIT Performance During Sustained Periods of Rising Interest Rates

TIME PERIOD	U.S. 10-YEAR TREASURY YIELD			CUMULATIVE TOTAL RETURN OVER PERIOD		
	BEGINNING YIELD (%)	ENDING YIELD (%)	CHANGE (%)	REITS (%)	STOCKS (%)	DIFFERENCE (%)
December 1976-September 1981	6.9	15.3	8.5	137.4	46.0	91.4
January 1983-June 1984	10.5	13.6	3.1	35.6	16.5	19.1
August 1986-October 1987	7.2	9.5	2.4	-10.1	10.9	-21.0
October 1993-November 1994	5.3	8.0	2.6	-10.3	0.1	-10.3
October 1998-January 2001	4.5	6.7	2.1	27.4	27.8	-0.4
June 2003-June 2006	3.3	5.1	1.8	108.2	37.6	70.6

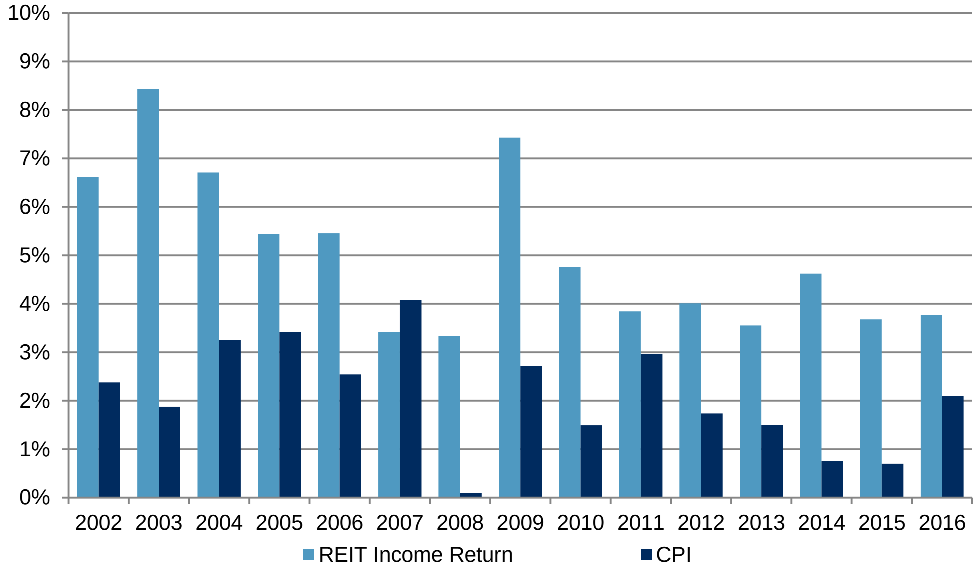
Source: S&P Dow Jones Indices LLC, Bloomberg, The Federal Reserve. REIT total returns are based on the FTSE/NAREIT Equity Index from Dec. 31, 1971, to Dec. 31, 1986, and they are based on the Dow Jones U.S. Select REIT Index after Dec. 31, 1986. Stock total returns are based on the S&P 500. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

Rising interest rates pose challenges for REITs.

Undoubtedly, rising interest rates pose challenges for REITs. All else being equal, higher interest rates tend to decrease the value of properties and increase REIT borrowing costs. In addition, higher interest rates make the relatively high dividend yields generated by REITs less attractive when compared with lower-risk, fixed income securities, which reduces their appeal to income-seeking investors.

While it would require a much more detailed study to attempt to determine why REITs have generally fared well in rising interest rate environments, it is clear that rising interest rates are associated with other factors that positively affect REIT fundamentals. For example, rising interest rates are frequently associated with economic growth and rising inflation, both of which are likely to be positive for real estate investments. Healthy economic growth tends to translate into greater demand for real estate and higher occupancy rates, supporting growth in REIT earnings, cash flow, and dividends. In inflationary periods, real estate owners typically have the ability to increase rents, and REIT dividend growth has historically exceeded the rate of inflation as a result. As depicted in Exhibit 3, the income component of REIT returns has exceeded inflation (as measured by the Consumer Price Index [CPI]) in 14 out of the past 15 years.

Exhibit 3: REIT Income Has Outpaced Inflation



Source: S&P Dow Jones Indices LLC; The Bureau of Labor Statistics. Data as of Dec. 30, 2016. REIT Income Return is calculated as the annual difference in return between the Dow Jones U.S. Select REIT Index (PR) and Dow Jones U.S. Select REIT Index (TR). Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

When expectations about future interest rates change suddenly, REITs have often experienced high volatility and rapid price changes.

A NOTE ON UNEXPECTED SHORT-TERM INTEREST RATE CHANGES

When expectations about future interest rates change suddenly, REITs (as well as other asset classes) have often experienced high volatility and rapid price changes. This phenomenon was evident in May 2013, when Fed Chair Ben Bernanke suggested that the QE taper could start earlier than most market participants expected. The chair's comments led to a sharp selloff of REITs and of some other asset classes, such as emerging market equities, which were viewed as reliant on "easy money" from the Fed. The Dow Jones U.S. Select REIT Index dropped 17.9% from its peak on May 21, 2013 (the day preceding the Fed comments), to its 2013 low on Aug. 19, 2013. However, as markets calmed, the index recovered, subsequently reaching new highs in 2014, and it has continued to rise along with broad-based equity gains in 2017.

CONCLUSION

Ultimately, whether interest rates are rising or falling does not seem to be the key driver of REIT performance over medium- and long-term periods. Rather, the more important dynamics to address are the underlying factors that drive rates higher. If interest rates are rising due to strength in the underlying economy and inflationary activity, stronger REIT fundamentals may very well outweigh any negative impact caused by rising rates.

ABOUT THE DOW JONES U.S. SELECT REIT INDEX

Introduced in 1987, the Dow Jones U.S. Select REIT Index is one of the oldest and most widely used REIT benchmarks. It is designed to measure the performance of publicly traded U.S. REITs and serve as a proxy for direct real estate investment, in part by excluding companies whose performance may be driven by factors other than the value of real estate.

INDEX METHODOLOGY OVERVIEW

Inclusion Requirements

1. A company must be both an equity owner and operator of commercial and/or residential real estate.
2. At least 75% of total revenue must be derived from the ownership and operation of real estate assets.
3. The company must have a minimum float-adjusted market cap of USD 200 million.
4. For index additions, a stock must have a median daily value traded (MDVT) of at least USD 5 million for the three months prior to the rebalancing reference date. Securities are deleted from the index at the next rebalancing if their MDVT falls below USD 1.5 million for the three months prior to the rebalancing reference date.

Exclusions

1. Mortgage REITs, hybrid REITs, specialized REITs (including net-lease REITs, timber REITs, railroad REITs, tower REITs, prison REITs, etc.).
2. Real estate finance companies, home-builders, mortgage brokers and bankers, commercial and residential real estate brokers, real estate agents, and large landowners.
3. Companies that have more than 25% of their assets in direct mortgage investments.

Constituent Weighting

The index is float-adjusted market cap weighted.

Rebalancing

The index is rebalanced quarterly after the close on the third Friday in March, June, September, and December.

PERFORMANCE DISCLOSURE

The S&P GSCI was launched on May 7, 2007. The Dow Jones U.S. Select REIT Index was launched on December 31, 1998. All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance. The back-test calculations are based on the same methodology that was in effect on the index Launch Date. Complete index methodology details are available at www.spdji.com.

S&P Dow Jones Indices defines various dates to assist our clients in providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the Index is set at a fixed value for calculation purposes. The Launch Date designates the date upon which the values of an index are first considered live: index values provided for any date or time period prior to the index's Launch Date are considered back-tested. S&P Dow Jones Indices defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company's public website or its datafeed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed "Date of introduction") is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index's public release date.

Past performance of the Index is not an indication of future results. Prospective application of the methodology used to construct the Index may not result in performance commensurate with the back-test returns shown. The back-test period does not necessarily correspond to the entire available history of the Index. Please refer to the methodology paper for the Index, available at www.spdji.com for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

Another limitation of using back-tested information is that the back-tested calculation is generally prepared with the benefit of hindsight. Back-tested information reflects the application of the index methodology and selection of index constituents in hindsight. No hypothetical record can completely account for the impact of financial risk in actual trading. For example, there are numerous factors related to the equities, fixed income, or commodities markets in general which cannot be, and have not been accounted for in the preparation of the index information set forth, all of which can affect actual performance.

The Index returns shown do not represent the results of actual trading of investable assets/securities. S&P Dow Jones Indices LLC maintains the Index and calculates the Index levels and performance shown or discussed, but does not manage actual assets. Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the Index or investment funds that are intended to track the performance of the Index. The imposition of these fees and charges would cause actual and back-tested performance of the securities/fund to be lower than the Index performance shown. As a simple example, if an index returned 10% on a US $100,000 investment for a 12-month period (or US $10,000) and an actual asset-based fee of 1.5% was imposed at the end of the period on the investment plus accrued interest (or US $1,650), the net return would be 8.35% (or US $8,350) for the year. Over a three year period, an annual 1.5% fee taken at year end with an assumed 10% return per year would result in a cumulative gross return of 33.10%, a total fee of US $5,375, and a cumulative net return of 27.2% (or US $27,200).

GENERAL DISCLAIMER