

# REIT Preferred Securities in a Rising Interest Rate Environment

*An understanding of how REIT preferreds perform during periods of rising interest rates*

## Executive Summary

- *REIT preferreds have initially traded down in reaction to short bursts in interest rates – but within 6 months recovered all losses and moved back into positive territory.* REIT preferreds have consistently bounced back from initial knee-jerk market reactions to short bursts in interest rates. Additionally, over more extended periods of rising interest rates, REIT preferred total returns have been positive in all but two instances.
- *REIT preferred yields are now trading at spreads well above their historical averages.* REIT preferred yields are trading inexpensively as compared to 10-year Treasuries as well as BB and B-rated corporate bonds. This high level of current yield could help REIT preferreds either benefit from future spread tightening or to continue to withstand incremental increases in interest rates.
- *Since 2001, REIT preferred credit spreads have tightened during every period of rising interest rates.* REIT preferred spreads have tightened in each of the past eight periods when interest rates rose meaningfully. This tightening in REIT preferred spreads can partially or fully cushion any price erosion that may materialize during periods of rising interest rates.
- *Total returns to REIT preferreds are a function of more than just changes in Treasury yields.* In fact, in addition to changes in Treasury rates, returns to REIT preferred are also impacted by changes in credit spreads, and the time it takes for these changes to occur.
- *Not all REIT preferreds are created equally.* REIT preferred issues are very different from one another, and stock selection can drive outperformance. Issues differ by balance sheet leverage, real estate and regional exposure, credit rating, coupon, issuance date, call protection, duration, par amount outstanding, and other characteristics. REIT preferred issues can perform quite differently depending upon all the above factors, especially in the event of a volatile interest rate climate environment.

**Question 1: How have REIT preferreds performed during prior periods of rising interest rates?**

*Answer: REIT preferreds have initially traded down during periods of elevated concerns over rising rates, but have fully recovered in 6 months after these periods and produced positive total returns.*

**A. REIT preferreds during short bursts in interest rates.** *Purchasing REIT preferred shares after interest rate fear-driven sell-offs has historically produced attractive total returns.* In nearly every instance that REIT preferreds traded down pursuant to short bursts of interest rate increases, within 6 months the shares have not only recovered, but also produced total returns in excess of what was lost during the downturn. As seen in Figure 1, REIT preferreds have declined *over the short-term* by an average of 5% during relatively brief periods of heightened interest rate fears. However, in the six months subsequent to those periods, REIT preferreds generated total returns in excess of what was previously lost. This indicates to us that fear-driven sell-offs in REIT preferreds have historically represented good buying opportunities.

*Figure 1: REIT Preferreds have initially traded down as an initial reaction to short bursts in interest rates ..... but within 6 months recovered all losses and moved back into positive territory*

Period	# of months	10-year Treasury Rate			REIT Preferred	
		Start rate	End rate	Difference	During rising rates	6-month after
Jul 1999 - Dec 1999	5	5.9%	6.4%	0.53%	-12%	14%
Mar 2004 - May 2004	1	3.8%	4.8%	0.94%	-8%	11%
Feb 2006 - May 2006	3	4.6%	5.1%	0.56%	-2%	8%
Oct 2010 - Nov 2010	1	2.6%	2.8%	0.19%	0%	5%
Jul 2012 - Aug 2012	1	1.5%	1.8%	0.32%	-1%	3%
May 2013 - Current	2	1.6%	2.5%	0.88%	-7%	NA
<b>Average</b>					<b>-5%</b>	<b>8%</b>

*REIT preferred total return based on Bank of America Merrill Lynch REIT Preferred Index. Source: Bloomberg. As of 6/21/13.*

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**B. REIT preferreds during extended periods of interest rate increases.** Over the past 8 cycles with more protracted interest rate increases, REIT preferreds have produced an average positive return of +3%, with only two periods of negative occurrences (see Figure 2). This is due to two factors. First, improving real estate fundamentals lead to higher occupancy rates, rents and cash flow coverage levels. In turn, credit spreads tighten (discussed in detail below), thereby helping REIT preferred returns. Second, the compounding of high income levels has helped to bolster the returns of REIT preferreds. *Ultimately, the combination of spread tightening and compounding of income has, in the past, completely offset price erosion in the asset class during periods of extended rises in interest rates.*

*Figure 2: REIT Preferred Total Returns Were Mostly Positive Over More Protracted Periods of Rising Interest Rates*

Period	# of months	10-year Treasury Rate			REIT Preferred Total Return
		Start rate	End rate	Difference	
Sep 1998 - Dec 1999	15	4.41%	6.44%	2.03%	-9%
Oct 2001 - Mar 2002	5	4.23%	5.41%	1.18%	3%
Jun 2003 - May 2004	11	3.37%	4.79%	1.42%	-1%
Jun 2005 - May 2006	11	3.92%	5.15%	1.23%	1%
Dec 2008 - May 2009	5	2.21%	3.47%	1.26%	13%
Nov 2009 - Mar 2010	4	3.20%	3.83%	0.63%	10%
Aug 2010 - Jan 2011	5	2.47%	3.47%	1.00%	1%
Jul 2012 - Feb 2013	7	1.49%	1.95%	0.46%	2%
<b>Average</b>					<b>3%</b>

*REIT preferred total return based on Bank of America Merrill Lynch REIT Preferred Index. Source: Bloomberg. As of 6/21/13.*

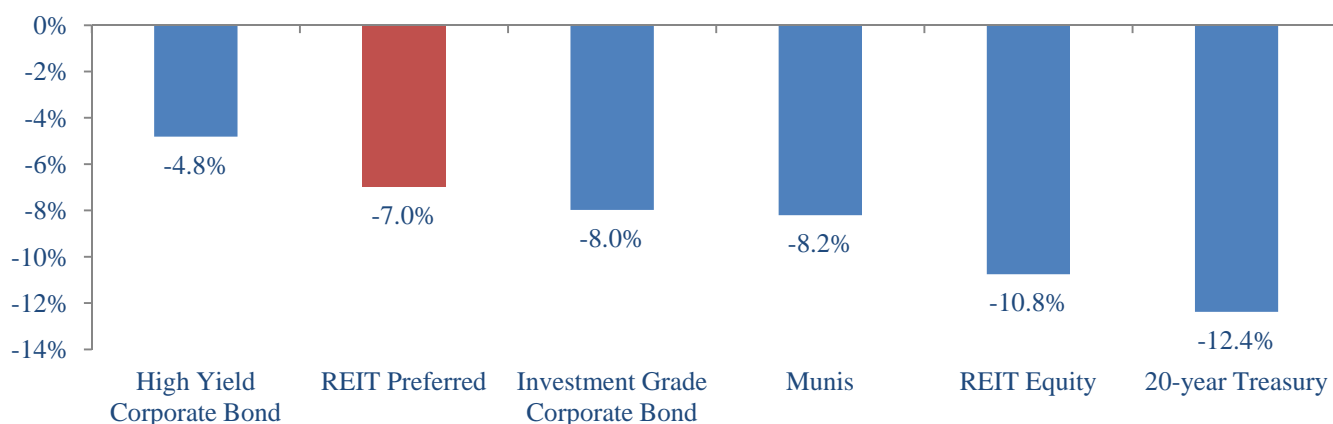
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**Question 2: Since May 1, 2013, the U.S. 10-year Treasury rate has risen from 1.64% to 2.51%. How have preferred securities performed?**

*Answer: REIT preferreds have declined 7.0%, but have outperformed most other fixed income sectors.*

The REIT preferred index has declined 7.0% as of June 21, 2013. This is predominately due to the rise in base-line Treasury rates, but partially offset by spread tightening and dividend income. Figure 3 shows that compared to other asset classes, REIT preferreds have been relatively more stable.

*Figure 3: Performance of Various Indices Since Long-term Rates Began to Rise*



*Total returns based on: iShares iBoxx High Yield Corporate Bond ETF, BAML REIT Preferred Index, iShares iBoxx Investment Grade Corporate Bond ETF, iShares S&P National AMT-free Municipal Bond ETF, MSCI U.S. REIT Index, and iShares Barclays 20+ Year Treasury Bond ETF, respectively. Total returns from 5/1/13 to 6/21/13.*

## Question 3: Where are REIT preferreds currently trading?

*Answer: REIT preferred yields are now trading at spreads well above their historical averages.*

We look at two metrics to determine where REIT preferreds are trading at the current time: 1) average share prices compared to par value, and 2) yield spreads compared to other fixed income alternatives. As seen below, *REIT preferred securities now trade at a discount to par, and also offer solid yield advantage compared to both U.S. Treasuries and corporate bonds.*

**A. REIT preferred share prices compared to par value.** Most REIT preferred shares carry \$25 par values, or liquidating preference prices. That means if a REIT liquidates itself, the proceeds from disposition of its real estate portfolio first repays all senior indebtedness, and then repays all preferred shares at par value. We thus look to par value as the “core” terminal price for REIT preferred shares at some point in the future.

As seen in Figure 4, we calculate the overall REIT preferred universe trades at an average 2.6% discount to par value, with the largest premium at 9.2% above par and the largest discount at 15.2% below par. *At current prices, REIT preferreds are now being priced with discipline slightly below their underlying core liquidation value.*

**Figure 4: Many More REIT Preferreds Now Trade at a Discount to Par Compared to Early May**

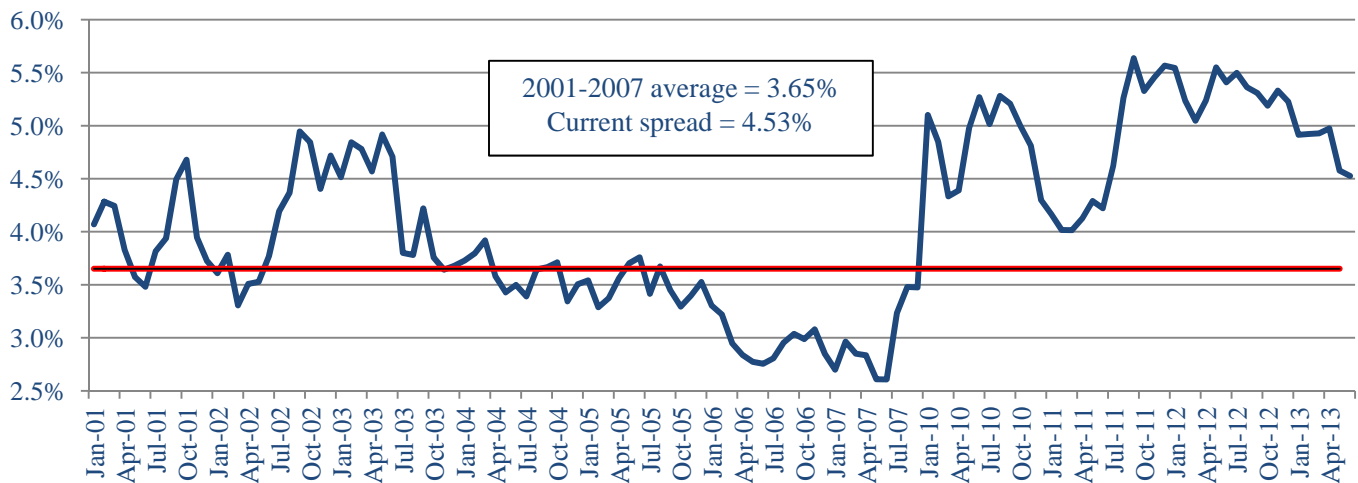


Source: Bloomberg. As of 6/24/13.

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**B. REIT preferred yields compared to other fixed income alternatives.** The spread between REIT preferred dividend yields and Treasury rates represents the extra return required for investors to take on the incremental credit risk of the asset class. As seen below, *REIT preferred spreads remain above their “normal” historical levels relative to several benchmarks. This suggests that: 1) REIT preferreds remain cheap relative to other fixed-income instruments, and 2) REIT preferreds appear situated for credit spread tightening at some point in the future.* Figure 5 illustrates that REIT preferreds are currently trading at 4.53% spread over the 10-year Treasury, 87 basis points above its 2001-2007 average of 3.65%<sup>1</sup>.

**Figure 5: REIT Preferred Yields Remain at a Healthy Spread Over the 10-year Treasury Rate**



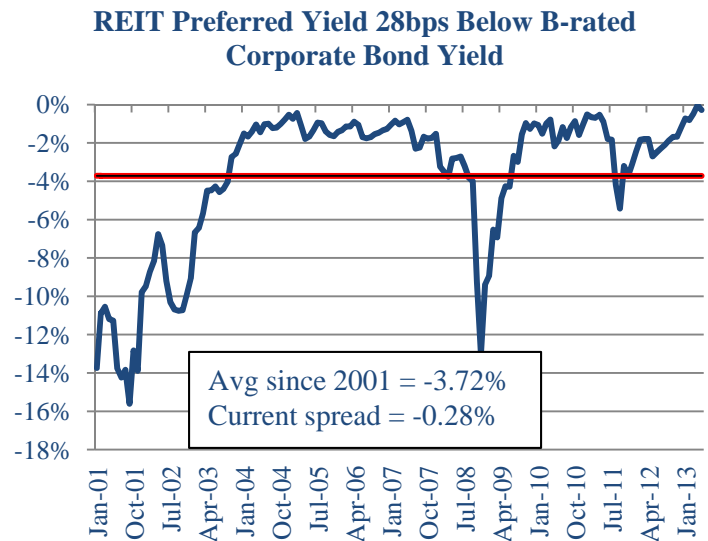
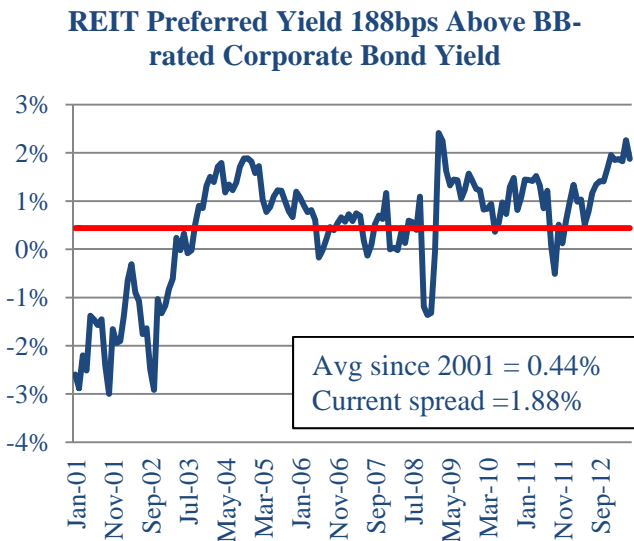
REIT preferred based on the Wells Fargo Hybrid and Preferred REIT index. Graph excludes the period from September 2007 to December 2009, when spreads spiked due to liquidity concerns. Source: Wells Fargo, Bloomberg. As of 6/21/13.

<sup>1</sup>We exclude the period post 2007 because of distortions caused by the financial crisis and subsequent extraordinarily low interest rate environment.

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Figures 6 and 7 illustrate that REIT preferreds were also trading at substantial spreads above BB and B-rated corporate debt as of May 31, 2013. Specifically, REIT preferred spreads are now about 190 basis points above BB-rated corporate bond yields, well above the 12-year average of 44 basis points. REIT preferred spreads are about 28 basis points below B-rated corporate bond yields, also wider than the historical average of -372 basis points.

*Figures 6 and 7: REIT Preferred Yields Are Now at a Large Spreads Over Corporate Bonds*



REIT preferred based on the Wells Fargo Hybrid and Preferred REIT index. BB-rated and B-rated corporate bond yield based on the Credit Suisse Split-BB and Split-B Rated Corporate Bond indices, respectively. Source: Wells Fargo, Credit Suisse. As of 5/31/13.

## Question 4: How have REIT preferred credit spreads responded to periods of rising interest rates?

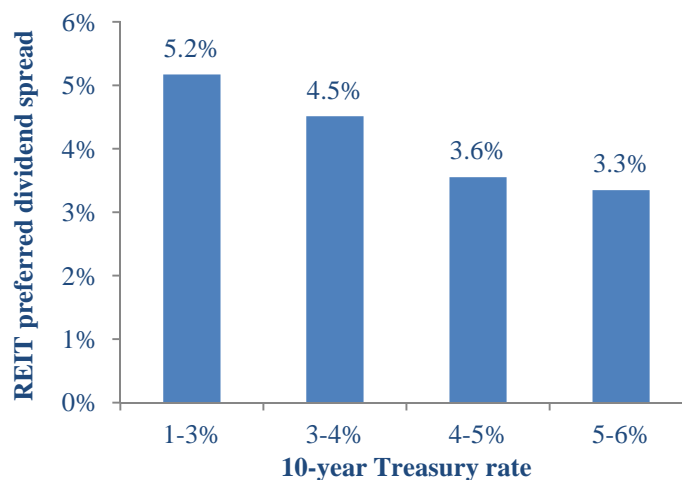
*Answer: Since 2001, REIT preferred spreads have tightened during every period of rising interest rates.*

Credit spreads are impacted by many factors, including the pace of inflation, trajectory of economic growth, levels of investor confidence, slope of the Treasury yield curve, and of course the balance sheet quality of underlying issuers. Basically, credit spreads tighten during periods when economic growth is improving and confidence levels are increasing – and widen during periods when economic conditions are declining and confidence levels are evaporating.

The same holds true for REIT preferred shares. As seen in Figure 8, REIT preferred spreads are consistently tighter when interest rates are higher. Since 2001, when interest rates were very low (1-3%), REIT preferred spreads have averaged 5.2% above the 10-year Treasury rate. As 10-year Treasury rates have stepped up to higher and higher levels, REIT preferred spreads have concurrently tightened. *At each level of higher interest rates, REIT yield spreads were tighter versus Treasuries.*

Looked at a different way, Figure 9 shows that REIT preferred yield spreads have tightened (by an average 129 basis points) in each of the past eight periods when interest rates rose meaningfully. As we will demonstrate in the next section, the tightening in REIT preferred spreads have partially cushioned their price erosion during these periods.

**Figure 8: REIT Preferred Spreads Are Consistently Tighter When Interest Rates Are Higher**



*Historical period based on January 2001 to June 2013, excluding the financial crisis (Sept 2007 – Dec 2009). REIT preferred based on the Wells Fargo Hybrid and Preferred REIT index. Sources: Wells Fargo, Bloomberg.*



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*Figure 9: REIT Preferred Spreads Have Tightened Each Time Interest Rates Rose Meaningfully*

Period	10-year Treasury Rate			Change in REIT Preferred Spread
	Start rate	End rate	Difference	
Oct 2001 - Mar 2002	4.2%	5.4%	1.18%	-1.41%
Jun 2003 - Jun 2004	3.5%	4.6%	1.08%	-1.20%
Jun 2005 - Jun 2006	3.9%	5.1%	1.19%	-1.00%
Dec 2008 - May 2009	2.2%	3.5%	1.26%	-2.68%
Nov 2009 - Mar 2010	3.2%	3.8%	0.63%	-1.72%
Aug 2010 - Jan 2011	2.5%	3.5%	1.00%	-1.22%
Jul 2012 - Feb 2013	1.5%	2.0%	0.46%	-0.64%
May 2013 - Current	1.6%	2.5%	0.88%	-0.48%
<b>Average</b>				<b>-1.29%</b>

*REIT preferred based on the Wells Fargo Hybrid and Preferred REIT index. Sources: Wells Fargo, Bloomberg. As of 6/21/13.*

### Question 5: What are key drivers of total returns of REIT preferreds?

*Answer: 1) Changes in baseline Treasury rates, 2) changes in credit spreads, and 3) the time it takes for these changes to occur.*

Total return to REIT preferred shares over a defined period of time is a function of three variables: 1) changes in the “base rate” level of longer term Treasuries, 2) changes in the incremental yield, or the credit spread, and 3) the time period it takes for interest rate movements to occur.

**A. Impact of credit spreads on REIT preferred total returns.** We show the impact of credit spreads on the total return equation of REIT preferreds as a consequence of changes in the interest rate environment. In the scenarios below, we keep all assumptions the same – except for credit spreads. *In doing so, it becomes abundantly clear that tightening credit spreads during periods of rising rates increase the total returns to REIT preferreds.*

Figure 10 depicts two scenarios. In scenario 1, we assume: 1) the 10-year Treasury rate increases by 100 basis points, 2) credit spreads on REIT preferreds *remain the same and do not tighten*, and 3) the changes occurs over a one year time frame. In scenario 2, we assume: 1) the 10-year Treasury rate increases by 100 basis points, 2) credit spreads on REIT preferreds *tighten by 50 basis points*, and 3) the changes occur over a one year time frame. **Figure 10 shows that a 50bps tightening of credit spreads more than offset a 100bps rise in Treasury rates and actually turned a negative total return into a positive total return.**

*Figure 10: Credit Spread Changes Play a Critical Role in Returns to REIT Preferreds*

	Credit spread scenarios	
	Scenario 1	Scenario 2
Change in 10-year Rate	1.00%	1.00%
<b>Change in Credit Spread</b>	<b>0.00%</b>	<b>-0.50%</b>
Total Change in Yield	1.00%	0.50%
Change in Preferred Price	(\$2.05)	(\$1.03)
Dividend Income	\$1.88	\$1.88
Total Return Per Share	(\$0.18)	\$0.85
<b>% Total Return</b>	<b>-0.7%</b>	<b>3.4%</b>

*Scenarios assume initial price of \$25, 7.5% dividend rate and 8.2 duration.*

**B. Impact of time horizon of rising rates on REIT preferred total returns.** We show the impact of the time frame during which interest rates rise to the total return equation for REIT preferreds. In these two scenarios, we keep all assumptions the same – except for the time frame for changes in interest rates. *In doing so, it becomes clear that the longer it takes for interest rates to rise, the smaller the impact on REIT preferred total returns.*

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*Figure 11: Speed of Interest Rate Changes Plays a Critical Role in Returns to REIT Preferreds*

	Time Horizon Scenarios	
	6 months	2 years
Change in 10-year Rate	1.00%	1.00%
Change in Credit Spread	-0.50%	-0.50%
Total Change in Yield	0.50%	0.50%
Change in Preferred Price	(\$1.03)	(\$1.03)
Dividend Income	\$0.94	\$3.75
Total Return Per Share	(\$0.09)	\$2.73
<b>% Total Return</b>	<b>-0.4%</b>	<b>10.9%</b>

Scenarios assume initial price of \$25, 7.5% dividend rate and 8.2 duration .

Figure 11 provides two scenarios. In scenario 1, we assume: 1) the 10-year Treasury rate increases by 100 basis points, 2) credit spreads on REIT preferreds tighten by 50 basis points, and 3) *the changes occur over a 6 month time frame*. In scenario 2, we assume: 1) the 10-year Treasury rate again increases by 100 basis points, 2) credit spreads on REIT preferreds again tighten by 50 basis points, and 3) *the changes occur over a two year time frame*. **Figure 11 makes it clear that the time frame during which interest rates change plays an important role in resulting total returns, and can actually turn a negative return into a positive total return.**

## Question 6: What is the importance of duration when investing in REIT Preferreds?

*Answer: Duration helps to measure the sensitivity of fixed income securities (like REIT preferreds) to changes in interest rates.*

Duration measures the sensitivity of the price of a fixed income investment to a change in interest rates. Duration is expressed in number of years. A fixed income security with a duration of 5 is theoretically expected to rise or fall by 5% for every 1% move in Treasury rates (assuming no change in its credit spread); a fixed income security with a duration of 10 is theoretically expected to rise or fall by 10% for every 1% move in Treasury rates.

We calculate (using Bloomberg database) that the duration of the overall REIT preferred asset class to be 8.2. This means that if interest rates were to rise by 1%, the price of the broader REIT preferred shares would hypothetically decline by 8.2%. Similarly, a 1% decline in interest rates would theoretically drive up REIT preferred prices by 8.2%.

However, as described in the previous section, REIT preferred total returns are impacted by three other significant factors: 1) the time frame within which interest rates rise or fall from one level to another, 2) the amount of dividend income received by investors during the time shares are held, and 3) the amount of credit spread tightening or expansion occurring as rates move to different levels. *Thus, on a total return basis, the combination of current income plus credit spread tightening could (and has historically) help augment returns in the event of any price diminution from duration risk in an adverse interest rate cycle.*

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### Question 7: Are all REIT preferreds created equally?

***Answer: No Way. REIT preferred issues are very different from one another, and stock selection can drive outperformance.***

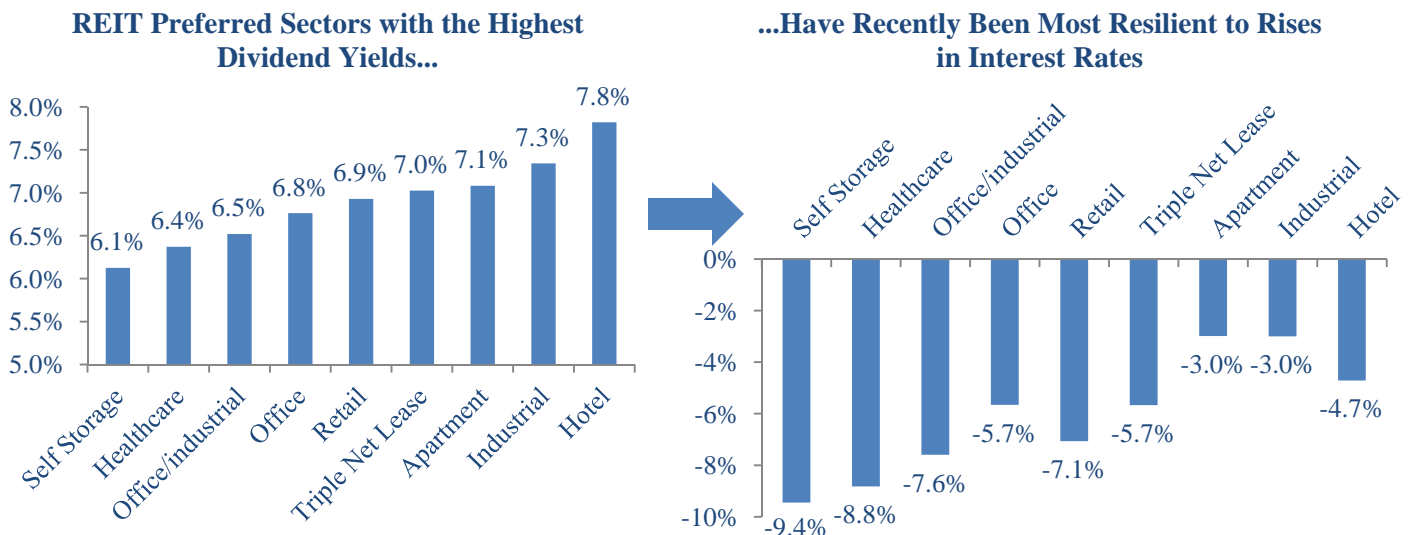
Not all REIT preferred shares are created equally. Issues differ by balance sheet leverage, commercial real estate exposure, regional exposure, credit rating, coupon, issuance date, call protection, duration, par amount outstanding, and other characteristics. While many factors influence the performance of REIT preferreds, we describe three characteristics related to interest rates below in order to highlight one key impression: *REIT preferred issues perform differently depending upon, in the case of this particular study, changes in the interest rate environment.*

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**A. Dividend yield.** REIT preferred shares carrying a dispersion of dividend yields have (and should) respond differently to changes in interest rates. Figure 12 depicts the weighted average dividend yield by sector within the REIT preferred universe. For example, the self storage sector (consisting primarily of Public Storage) has the lowest yield at 6.2% while the hotel sector have the highest yield at 7.8%. *Lower-yielding preferreds tend to have a higher duration, or greater sensitivity to changes in interest rates; conversely higher-yielding preferreds tend to have a lower duration, or minimal sensitivity to changes in interest rates.*

It therefore follows suit that in the most recent significant move in interest rates, the property sectors carrying the lowest dividend yields have fallen the most while the property sectors carrying the highest dividend yields have fallen the least, as illustrated by Figure 13.

**Figures 12 and 13: Sectors with Highest Dividend Yields Have Shown the Greatest Resiliency to Interest Rate Increases**



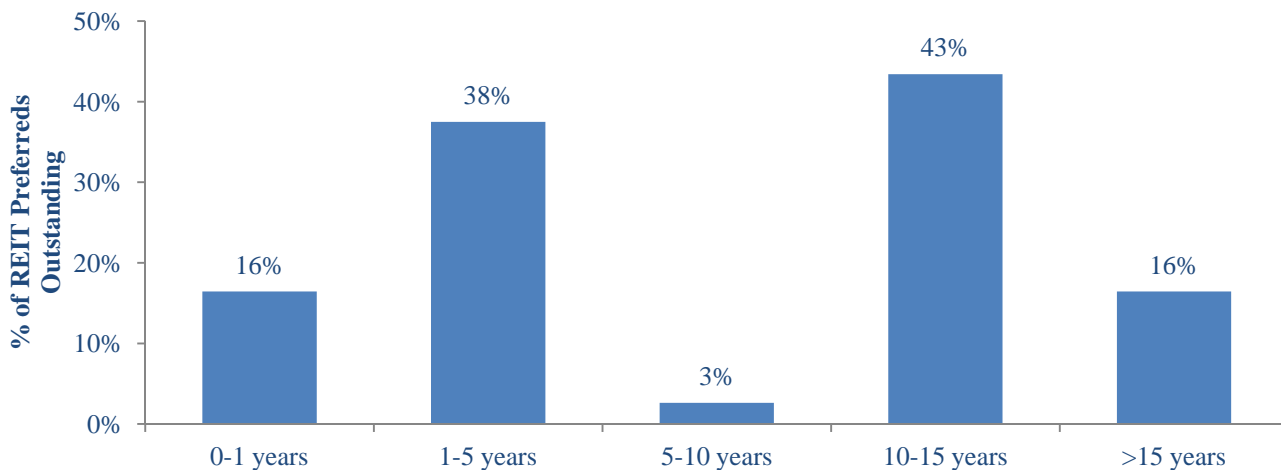
*Excludes mortgage REIT preferreds given different underlying balance sheet leverage characteristics. Source: Bloomberg. Performance from 5/10/13 to 6/24/13.*

**B. Duration and Call Protection.** REIT preferreds are typically issued with a 5-year call protection period. After 5 years, the issuer has the option to redeem the security at par. Approximately half of REIT preferreds outstanding were issued in the low interest rate environment beginning in 2012. If interest rates do not return to these historic lows, then issuers are unlikely to replace these preferreds with future issues at even lower coupons. Therefore, these preferreds carry a relatively high duration and are the most sensitive to changes in interest rates.

About 20% of preferreds were issued in 2009 through 2011, when interest rates were at higher levels. Therefore, it may still make sense for these issuers to redeem the preferred series after the call protection expires. Preferreds that are likely to be redeemed have a lower duration, and are less sensitive to changes in interest rates.

Figure 14 shows the duration breakdown among all REIT preferreds. While the average duration is 8.2, about half of the sector has duration less than 5, while the other half has duration greater than 10. This means that roughly half of the REIT preferred universe is not very sensitive to changes in rates, while the other half is more sensitive.

*Figure 14: REIT Preferreds Durations are Bifurcated Tranches*



Source: Bloomberg. As of 6/24/13.

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The S&P 500 Stock Index is an unmanaged market capitalization index of 500 U.S. equities generally considered to be representative of U.S. stock market activity.

iShares S&P U.S. Preferred Stock Index (PFF) is the largest exchange traded fund (ETF) that invests in preferred securities.

BofA Merrill Lynch REIT Preferred Index (BAML REIT Preferred Index) is a proprietary index representing the performance of fixed rate REIT preferred securities.

BofA Merrill Lynch Fixed-Rate Preferred Index (BAML Fixed-Rate Preferred Index) is a proprietary index representing the performance of fixed rate preferred securities of all types. Total returns of the BofA Merrill Lynch Preferred Index include investment-grade \$25-par preferred securities.

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The RMZ REIT Common Stock Index is the MSCI REIT Index representing approximately 85% of the US REIT universe of common stocks.

Wells Fargo Hybrid and Preferred Securities REIT Index is a proprietary index representing the performance of preferred shares and depository shares of REIT preferred securities.

Credit Suisse High Yield BBB is a proprietary index representing the performance of BBB rated bonds.

Credit Suisse High Yield BB is a proprietary index representing the performance of BB rated bonds.

Credit Suisse Split B High Yield is a proprietary Credit Suisse index representing the performance of bonds rated B and BB.

Credit Suisse Split BB High Yield is a proprietary Credit Suisse Index representing the performance of bonds rated BB and BBB.

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