



Interest Rates and REIT Performance: Searching for a Correlation

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Introduction

We frequently receive the question “How do REIT share prices perform when interest rates increase?” This is a logical question for potential investors, as the returns associated with other fixed income oriented products, like bonds, are strongly correlated with rate changes. Many investors looking for fixed income oriented products wonder if REITs behave the same way. After examining seven distinct periods of rising Fed Funds, the simple answer is no. While interest rates are a factor in REIT share prices, core operating metrics, such as rents, occupancy rates and NAV growth play a much larger role in determining a REIT’s performance. Metrics, rather than interest rates, are responsible for REIT performance.

Methodology

In order to examine the relationship between rates and REIT share prices, we compiled 40 years of data from the NAREIT index, the S&P 500, the Fed Funds and the Moody’s Baa Bond Yield (using both long- and short-term rates). We believe that rising Fed Funds represents a tightening and usually corresponds to the Fed fighting inflation or the threat of inflation. Meanwhile the Moody’s Baa bond yield is more in line with the longer term actual funding costs of a higher quality REIT. In the appendix, we present graphs of each time period, showing the rising Fed Funds rate and Moody’s Baa corporate bond yield alongside REIT index performance and the S&P 500 index. Yearly data, beginning in 1971, is shown on the graph in Figure 1.

This data was then broken into seven distinct periods. Because we are concerned with REIT share price performance during periods of rising interest rates, the periods used in this paper were demarcated through distinct rises in rates. Periods of falling rates were not analyzed. Furthermore, we categorized our seven periods into one of two distinct sections: pre-modern and modern. The modern REIT era (beginning in 1993) is different from the pre-modern because most of the publicly traded REITs around today were not formed before 1993. The prior era was instead characterized by fewer, smaller REITs that were essentially passive owners. In 1993 the Umbrella Partnership (UPREIT) was codified and this allowed large real estate companies with low-basis assets to access the public market in a tax-efficient fashion. This unleashed the market we now see with larger, vertically integrated, professionally managed real estate operating companies. These companies have much more sophisticated capital raising and allocation models and are more adaptable to changes in credit conditions. Currently, the fed funds rate is effectively zero, and as this paper only focuses on REIT returns in rising rate environments, our analysis ends with the period between 2004 and 2006. Unless otherwise noted, REIT price movement is REIT total return.

Our analysis of this data over seven periods of rising rates is presented in summary tables for each individual period. We show the beginning and end values for the Fed Funds and Moody’s Baa corporate



rates, as well as the delta and percent change over the period. We also calculate changes in the REIT index, both including and excluding dividends, as well as changes in the S&P 500. The delta and percent change for the indices are noted in the data tables as well. Next to the data, we present the correlations between the movements in each index and the rise in rates.

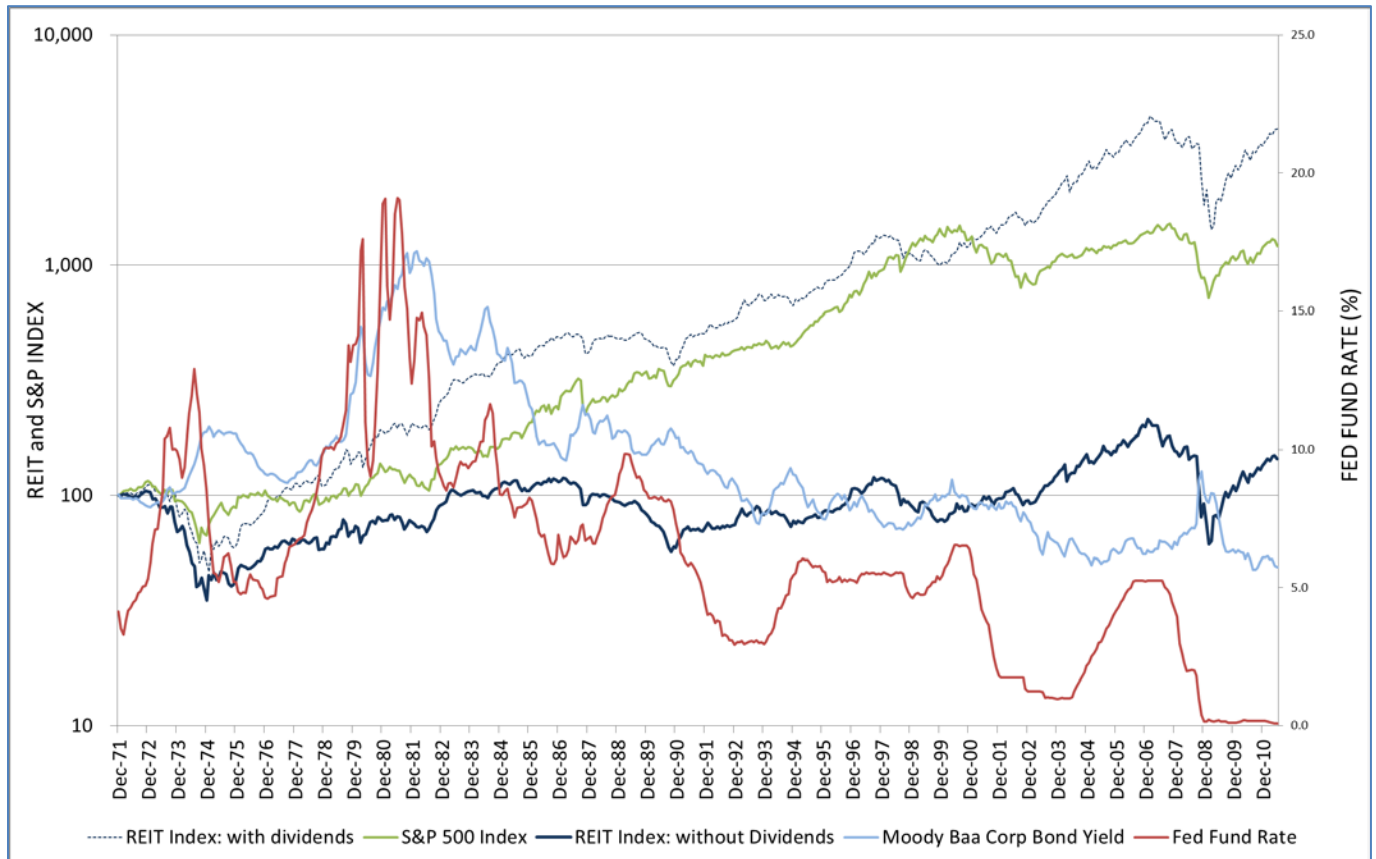


Figure 1

Data

Pre-Modern Era: 1972-1993

In the pre-modern REIT era, there were four periods of dramatic and sustained increase in Fed Funds. Two of these periods experienced a positive correlation with REIT returns while the other two experienced a negative correlation

Period I: 1972 to 1974

Fed Funds increased from 3.3% to 12.9% and REIT returns were dismal. This of course corresponds to the 1974 bear market, which, up until now, was the worst downturn since the depression. REITs were



negatively correlated with the increase in the Fed Funds rate, losing 39% of their value, including dividends.

PERIOD I

Fed Fund Rate Tightening and REIT Index Correlation: (Feb '72 - July '74)

Data	Data				Correlation				
	Feb '72	July '74	Delta	% change	Corp Baa	FF Rate	REIT: w/o	REIT w/	S&P 500
Corp Baa	8.23	9.48	1.25	15.2%	Corp Baa	1.00			
FF Rate	3.30	12.92	9.62	291.5%	FF Rate	0.76	1		
REIT: excl. divs	100.00	48.68	-51.32	-51.3%	REIT: excl. divs	-0.91	-0.86	1	
REIT: incl. divs	100.00	60.86	-39.14	-39.1%	REIT: incl. divs	-0.93	-0.76	0.98	1
S&P 500	100.00	74.42	-25.58	-25.6%	S&P 500	-0.92	-0.74	0.96	0.98

Figure 2

Period II: 1977 to 1981

This is the Volker Squeeze. Interest rates make any financed transaction essentially impossible as turbulent monetary and fiscal policy along with the end of the Vietnam War, a massive recession, an oil shock, and a paralyzed government (sound familiar?) all contribute to a spike in the Fed Funds rate from 4.8% in 1977 to 19.1% in 1981. During these turbulent times, REITs were positively correlated with rate changes and gained 89%.

PERIOD II

Fed Fund Rate Tightening and REIT Index Correlation: (Apr '77 - Jan '81)

Data	Data				Correlation				
	Apr '77	Jan '81	Delta	% change	Corp Baa	FF Rate	REIT: w/o	REIT w/	S&P 500
Corp Baa	9.07	15.03	5.96	65.7%	Corp Baa	1.00			
FF Rate	4.73	19.08	14.35	303.4%	FF Rate	0.88	1		
REIT: excl. divs	100.00	129.93	29.93	29.9%	REIT: excl. divs	0.73	0.59	1	
REIT: incl. divs	100.00	189.11	89.11	89.1%	REIT: incl. divs	0.88	0.73	0.95	1
S&P 500	100.00	131.61	31.61	31.6%	S&P 500	0.86	0.68	0.88	0.94

Figure 3

Period III: 1983 to 1984

During this period, the Fed Funds rate increased from 9.3% to 11.6%. REITs are positively correlated and gained 4.7%.



PERIOD III

Fed Fund Rate Tightening and REIT Index Correlation: (Nov '83 - Aug '84)

Data					Correlation					
	Nov '83	Aug '84	Delta	% change	Corp Baa	FF Rate	REIT: w/o	REIT w/	S&P 500	
Corp Baa	13.61	14.63	1.02	7.5%	Corp Baa	1.00				
FF Rate	9.34	11.64	2.30	24.6%	FF Rate	0.89	1			
REIT: excl. divs	100.00	97.74	-2.26	-2.3%	REIT: excl. divs	-0.63	-0.36	1		
REIT: incl. divs	100.00	104.72	4.72	4.7%	REIT: incl. divs	-0.22	-0.59	-0.35	1	
S&P 500	100.00	100.17	0.17	0.2%	S&P 500	-0.17	0.04	0.83	-0.36	1

Figure 4

Period IV: 1986 to 1989

After the two previous periods of positive correlation, REITs are weakly negatively and lose 3.3% as the Fed Funds rate increases from 5.9% to 9.9% over the three year period.

PERIOD IV

Fed Fund Rate Tightening and REIT Index Correlation: (Oct '86 - Mar '89)

Data					Correlation					
	Oct '86	Mar '89	Delta	% change	Corp Baa	FF Rate	REIT: w/o	REIT w/	S&P 500	
Corp Baa	10.24	10.67	0.43	4.2%	Corp Baa	1.00				
FF Rate	5.85	9.85	4.00	68.4%	FF Rate	0.31	1			
REIT: excl. divs	100.00	78.31	-21.69	-21.7%	REIT: excl. divs	-0.73	-0.74	1		
REIT: incl. divs	100.00	96.68	-3.32	-3.3%	REIT: incl. divs	-0.62	-0.10	0.53	1	
S&P 500	100.00	124.24	24.24	24.2%	S&P 500	-0.34	0.22	0.24	0.54	1

Figure 5

Modern REIT Era: 1993 to Present

The modern era sees three distinct periods of rising Fed Funds rates. REITs traded flat during two of these periods, representing a very weak negative correlation. The remaining periods experienced a positive correlation between the REIT index and interest rates.

Period V: 1994 to 1995

Fed Funds increased from 3.1% to 6.1% and during this period, REITs traded flat (-0.8%), representing a negative correlation.

PERIOD V

Fed Fund Rate Tightening and REIT Index Correlation: (Jan '94 - April '95)

Data					Correlation					
	Jan '94	April '95	Delta	% change	Corp Baa	FF Rate	REIT: w/o	REIT w/	S&P 500	
Corp Baa	7.65	8.60	0.95	12.4%	Corp Baa	1				
FF Rate	3.05	6.05	3.00	98.4%	FF Rate	0.71	1			
REIT: excl. divs	100.00	89.91	-10.09	-10.1%	REIT: excl. divs	-0.78	-0.88	1		
REIT: incl. divs	100.00	99.19	-0.81	-0.8%	REIT: incl. divs	-0.67	-0.50	0.85	1	
S&P 500	100.00	106.87	6.87	6.9%	S&P 500	-0.06	0.56	-0.38	-0.02	1

Figure 6



Period VI: 1999 to 2000

Fed Funds increased from 4.8% to 6.5% and REITs we negatively correlated REITs trading flat (-0.6%) during this period.

PERIOD VI

Fed Fund Rate Tightening and REIT Index Correlation: (May '99 - June '00)

Data					Correlation					
	May '99	June '00	Delta	% change	Corp Baa	FF Rate	REIT: w/o	REIT w/	S&P 500	
Corp Baa	7.72	8.48	0.76	9.8%	Corp Baa	1				
FF Rate	4.74	6.53	1.79	37.8%	FF Rate	0.83	1			
REIT: excl. divs	100.00	90.33	-9.67	-9.7%	REIT: excl. divs	-0.48	-0.41	1		
REIT: incl. divs	100.00	99.35	-0.65	-0.6%	REIT: incl. divs	-0.10	0.06	0.88	1	
S&P 500	100.00	111.73	11.73	11.7%	S&P 500	0.55	0.68	-0.41	-0.06	1

Figure 7

Period VII: 2004 to 2006

Fed Funds increased from 1.3% to 5.3% as REITS, which were strongly positively correlated, gained 56%.

PERIOD VII

Fed Fund Rate Tightening and REIT Index Correlation: (June '04 - July '06)

Data					Correlation					
	June '04	July '06	Delta	% change	Corp Baa	FF Rate	REIT: w/o	REIT w/	S&P 500	
Corp Baa	6.78	6.76	-0.02	-0.3%	Corp Baa	1				
FF Rate	1.26	5.25	3.99	316.7%	FF Rate	0.27	1			
REIT: excl. divs	99.67	139.35	39.67	39.8%	REIT: excl. divs	0.17	0.93	1		
REIT: incl. divs	100.04	155.93	55.88	55.9%	REIT: incl. divs	0.22	0.96	0.99	1	
S&P 500	96.57	111.91	15.34	15.9%	S&P 500	0.20	0.93	0.93	0.94	1

Figure 8

Concluding Remarks

Throughout the seven periods of rising rates presented here, three experienced increases in the share prices of REITs while the remaining four saw declining REIT share prices. Therefore, the data shows that, unlike other fixed income products, an increase in interest rates due to monetary policy does not have a strong effect on the share prices of REITS. We must look for other factors that influence the REIT index.

Key Real Estate Operating Metrics

Each period we analyzed has its own unique business conditions, which play a larger role than the Fed Funds rate in the performance of both the REITs' assets and shares. The underlying fundamentals, such as FFO, NAV, rents, and occupancy were increasing in the periods when REIT shares were performing well. The positive correlation we saw in periods II, III and IV is due, in part, to strong metrics at a fundamental level.



The Effects of Inflation

Inflation is an important consideration in the pricing of REITs. We believe the Fed may be attempting to engineer more inflation into the system in order to aid the nation's economic recovery. We think that housing prices and bank lending are crucial factors in an increase in our economic health, both of which would be positively impacted by inflation. Furthermore, the threat of inflation causes consumers to make large purchases more quickly, before prices rise. In an inflationary economic environment, the incentive to borrow, the rise in housing prices and the strengthened banking system would all provide a lift in the prices of REIT shares.

Our theory can be examined by looking at the REIT index in the later 1970's. Throughout this period of extreme inflation, REIT shares rose dramatically (see Graph of Period II in the appendix). We believe that inflation is necessary in the current economic environment, and if the Fed pursues inflationary monetary policy, REIT shares will rise as a result.

Final Thoughts

Currently, real estate operating metrics are generally improving across most of the sub-sectors of the market: vacancies are declining, rents are increasing (albeit slowly and from depressed levels), and FFO is increasing for the majority of companies. As long as we continue to see positive GNP growth, an increase in the Fed Funds rate (which appears at least two years off based on Chairman Bernanke's recent testimony) will likely see to positive REIT share performance. However, bear in mind that, according to the economists polled, there is a roughly 30% chance that the economy may slip into another recession. This will dampen demand for real estate and the metrics that are now increasing may also stall. We have shown that, unlike bonds, an increase in the Fed Funds rate will not necessarily cause falling prices. Rather, strong underlying assets, possible inflation, and increases in growth of key operating metrics drive increases in REIT prices.

Appendix

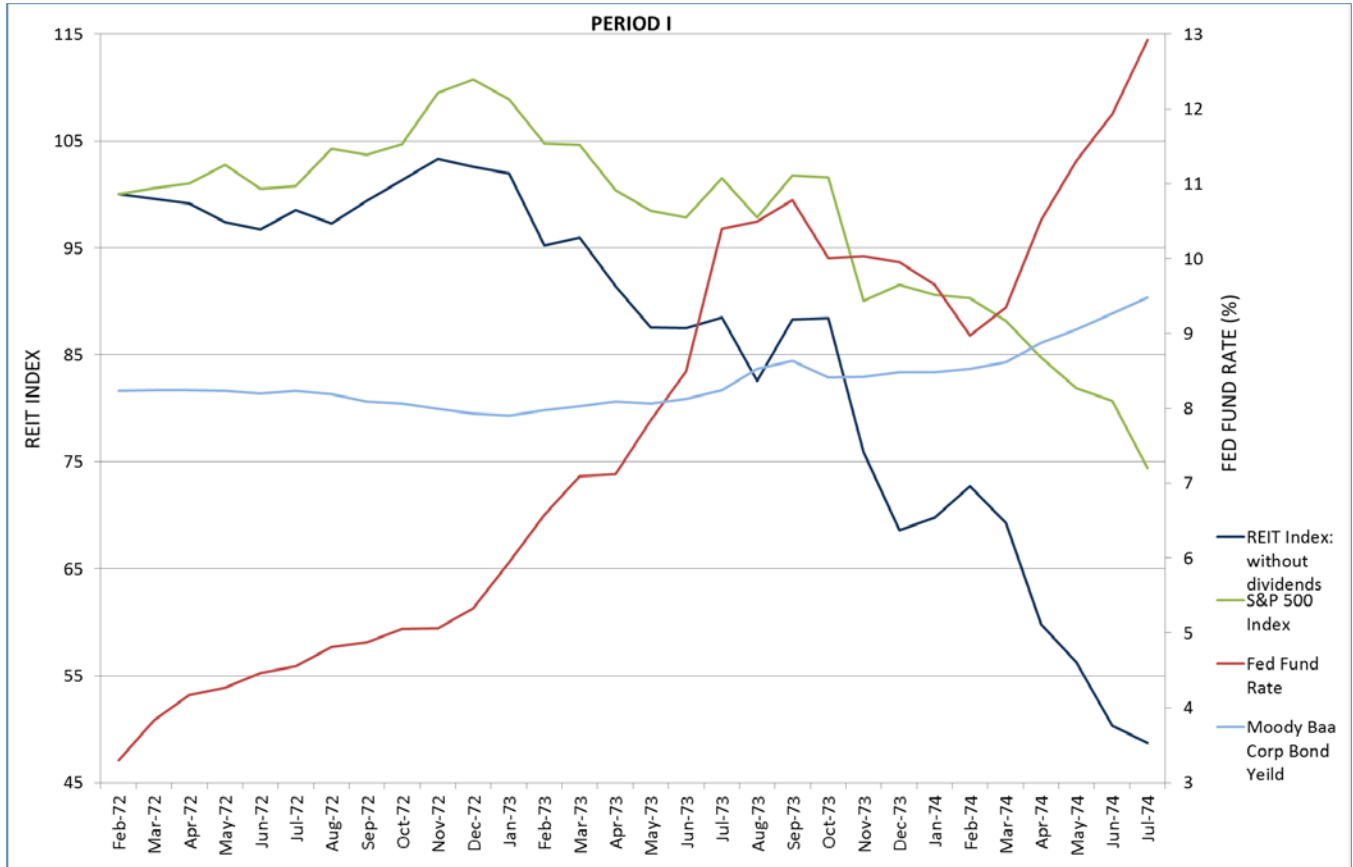


Figure 9

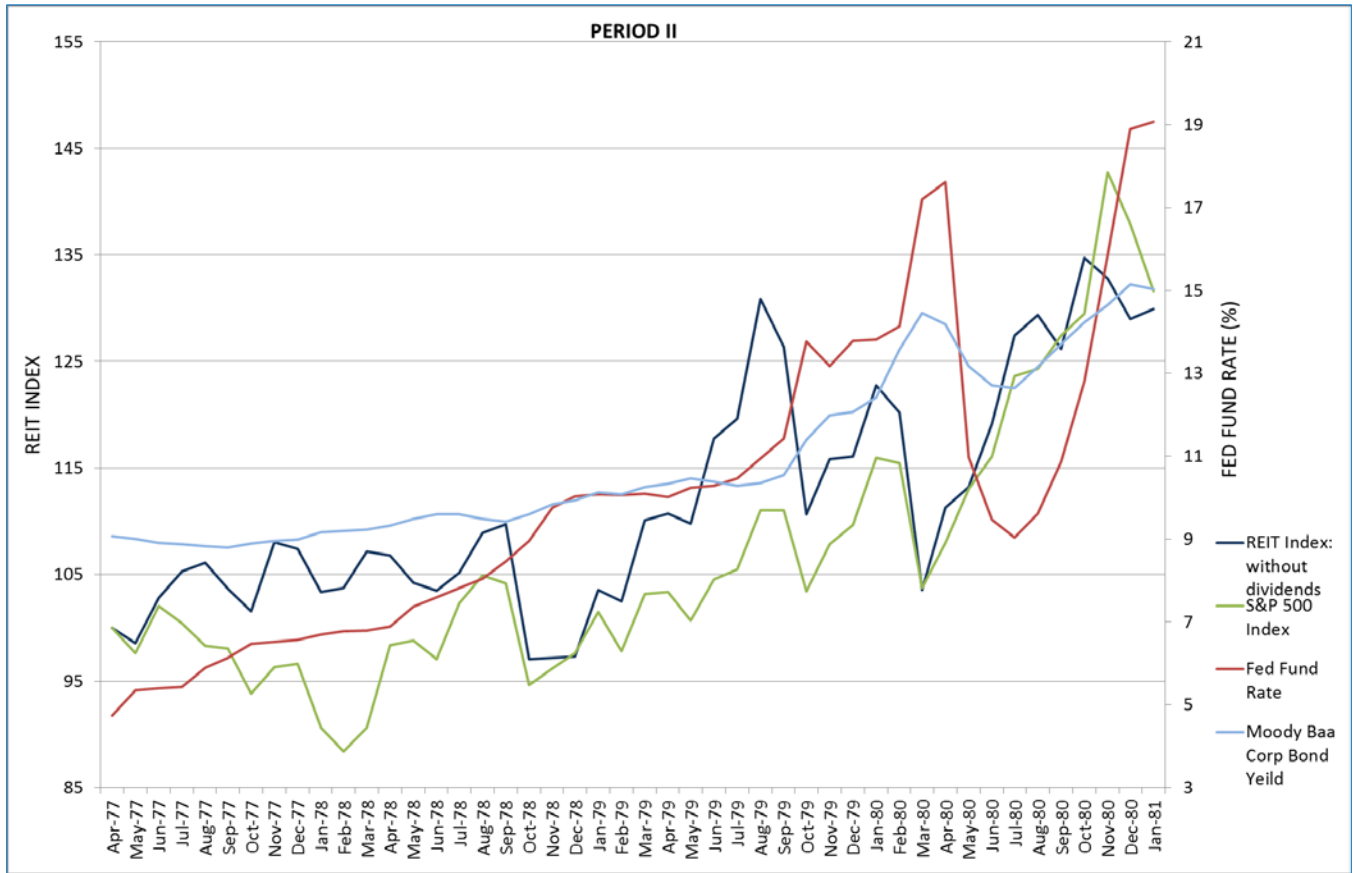


Figure 10

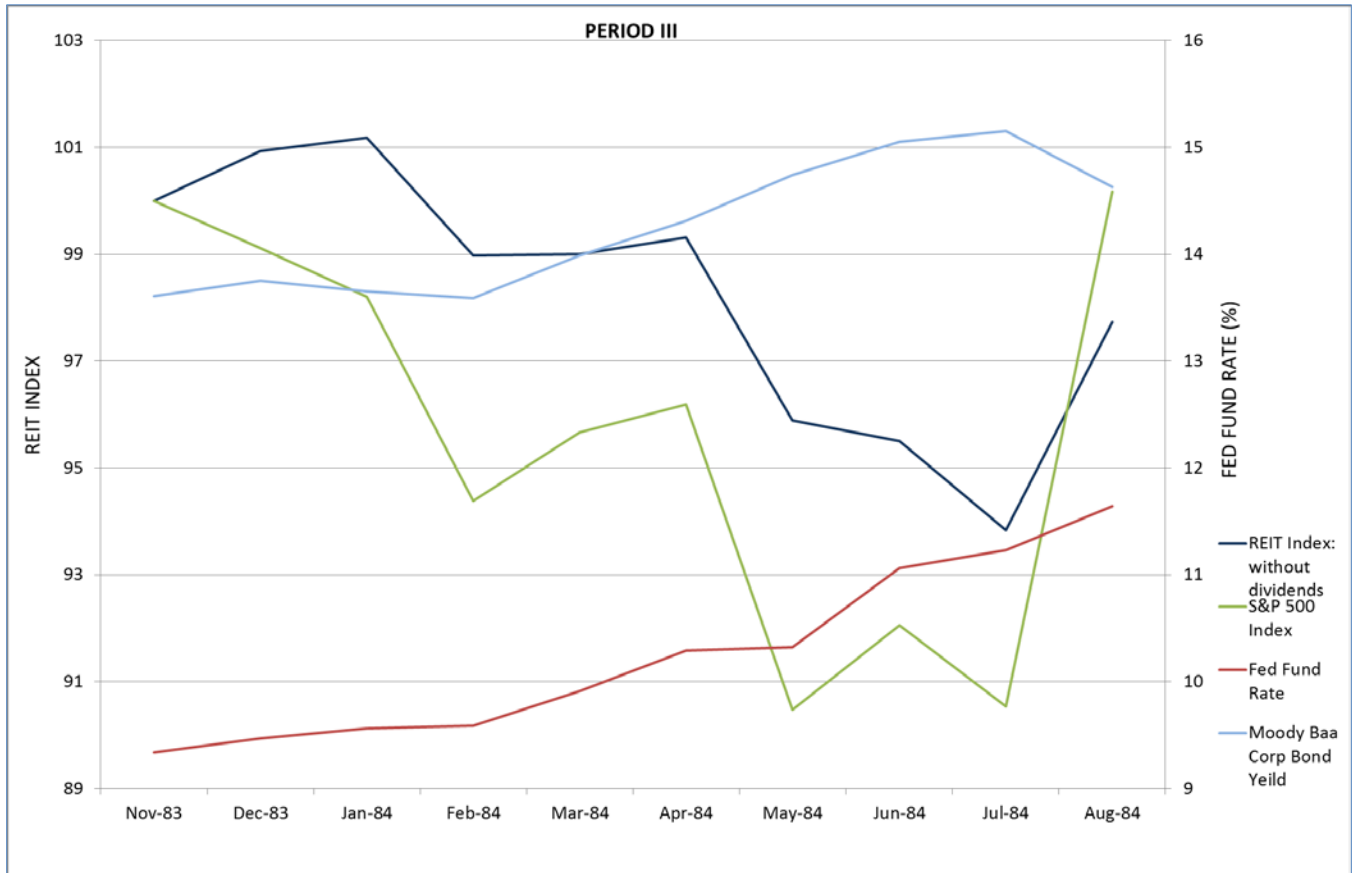


Figure 11

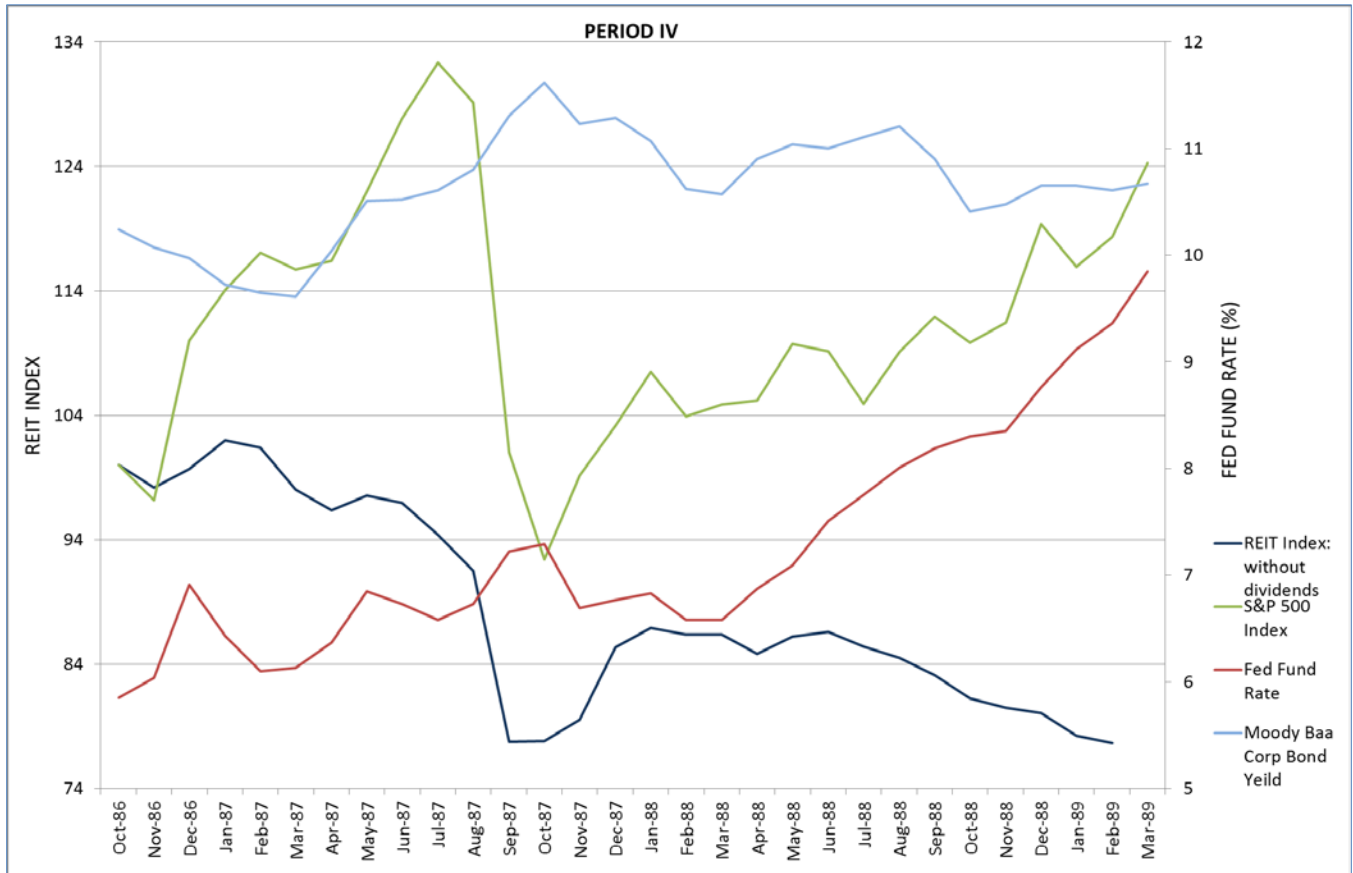


Figure 12

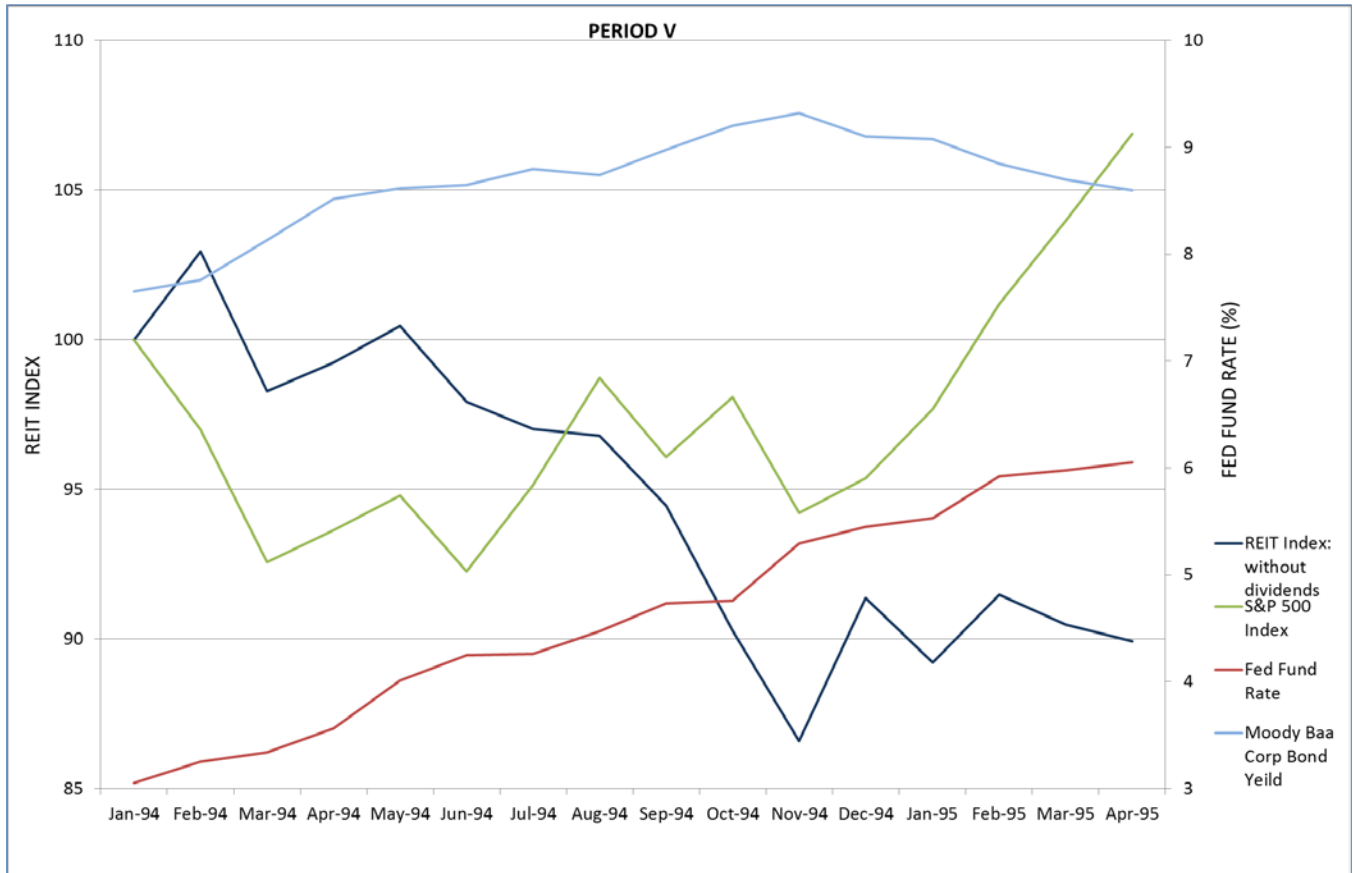


Figure 13

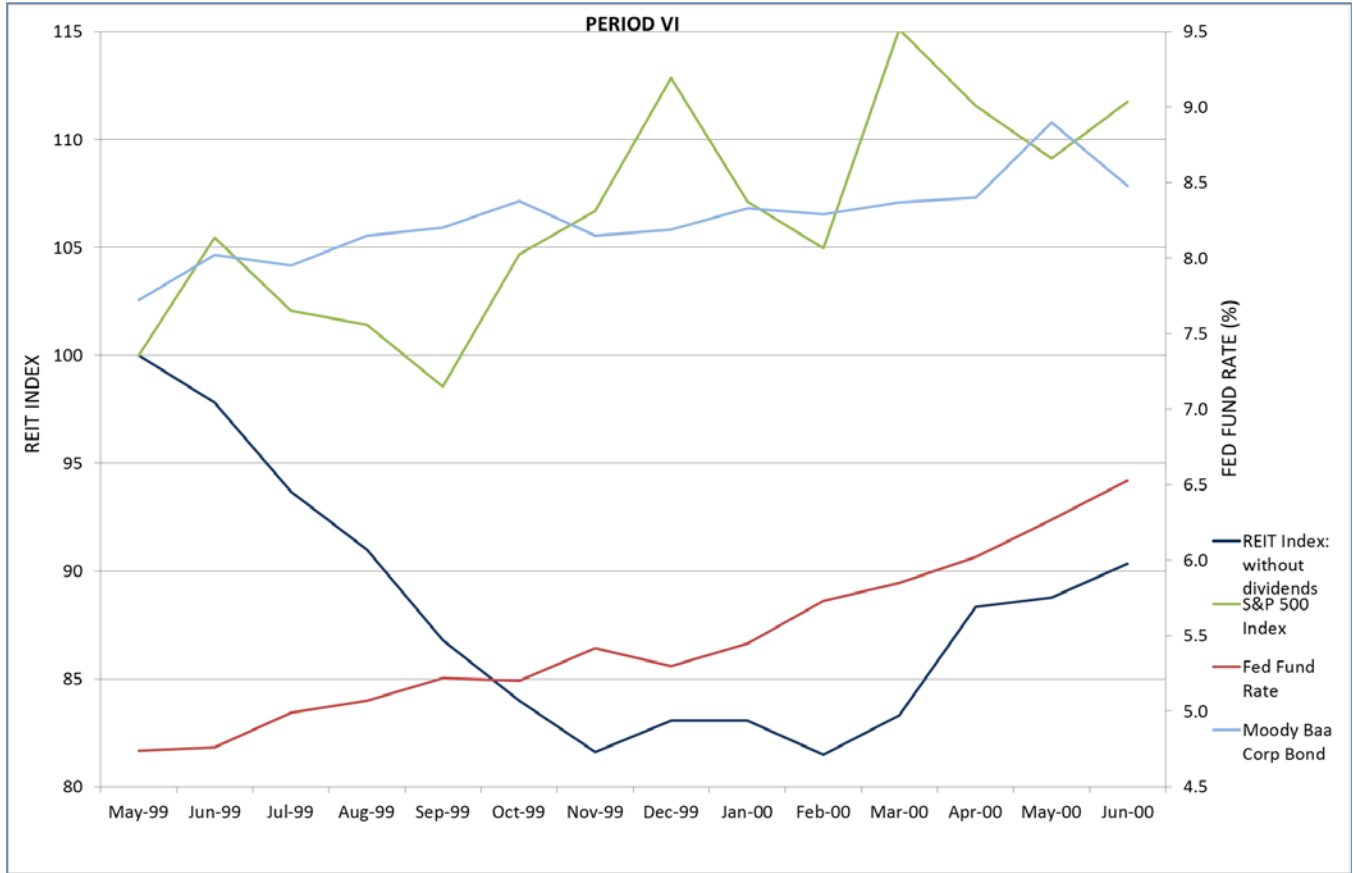


Figure 14

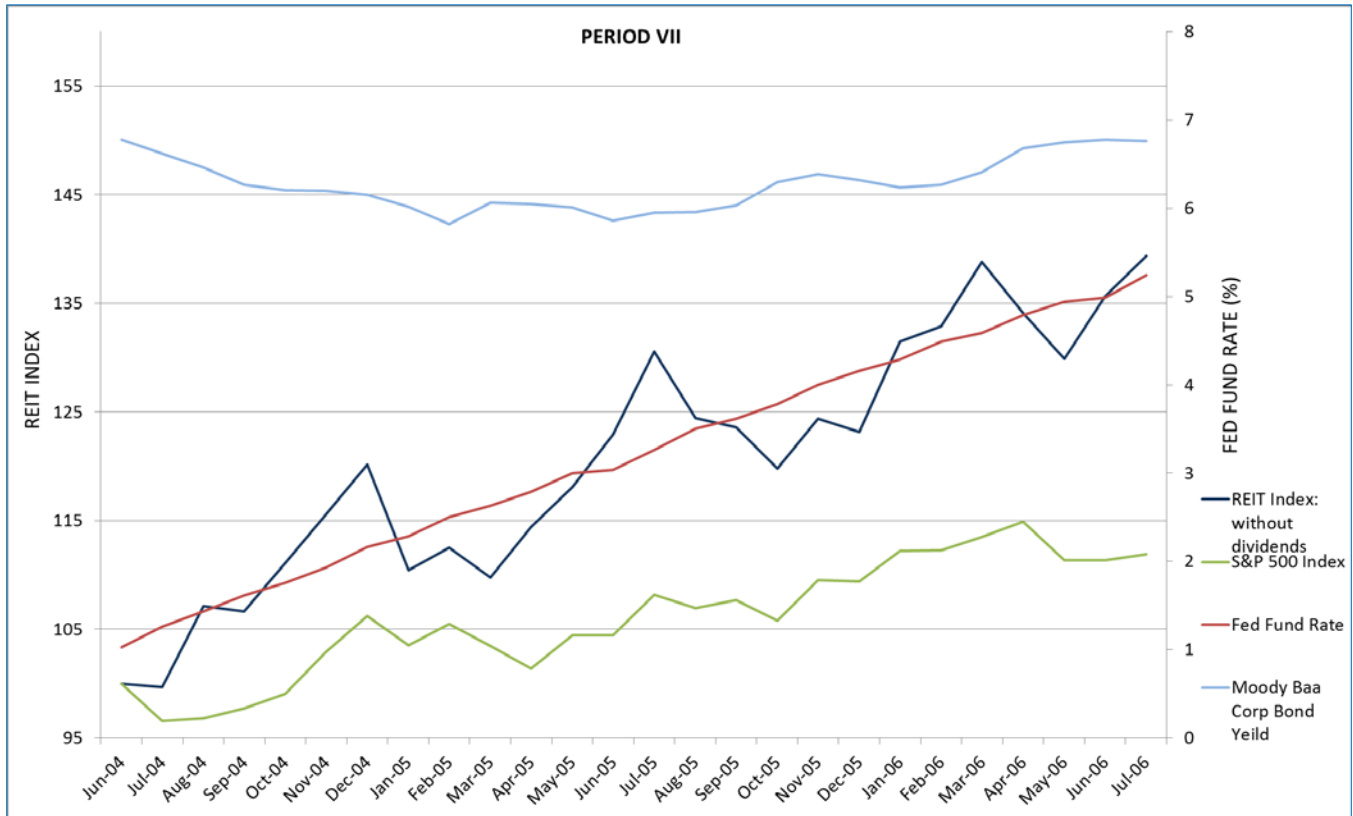


Figure 15

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