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OCTOBER 27–30, 2013 | LAS VEGAS

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Implications of a Rising Rate Environment

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Executive Summary

1	Examining periods of extensive rising rates indicates that the impact to market pricing typically occurs in the years just before and after the beginning of the rate change
2	Flows into fixed income products typically taper off during rising rate regimes, but do not always turn negative
3	Given the high level of flows into fixed income in recent years, the current environment for flows could be different than in previous rising rate periods
4	We expect Fed policy to be contingent upon developments in growth, inflation, and employment
5	Current anticipated trajectory for growth and inflation imply no interest rate hikes from the Fed until 2015

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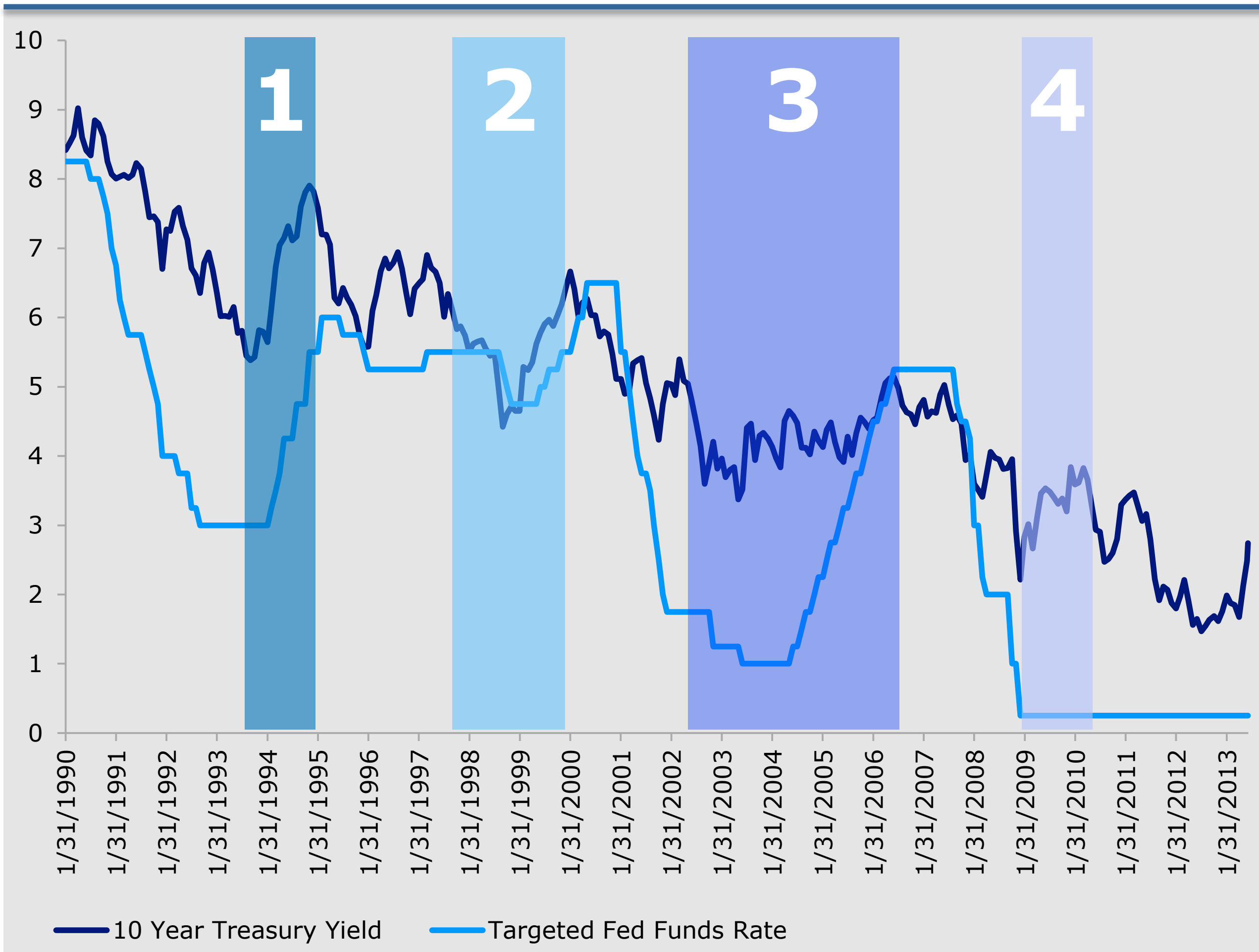
There Were Four Periods Where 10 Year Treasuries Increased at Least 150bps Since 1990



- We defined periods of rising rates as those when 10 year Treasury yields have increased at least 150 basis points
- Since 1990, there have been four such periods
- Although other rising rate periods exist prior to 1990, changes in global markets lead us to confine our review to these periods

Source: Bloomberg/Invesco as of September, 2013.

The Characteristics of These Four Time Periods Were Different from an Economic Cycle Perspective

	Year	10 Year Treasury Range	Regime Factor
1	1993–1994	5.40–7.91%	Growth
2	1998–2000	4.44–6.68%	Mixed
3	2003–2006	3.37–5.25%	Inflation
4	2008–2009	2.25–3.85%	Mixed

- We characterized the rate periods based upon regime or economic cycles and what was the dominant driver:
  - Growth
  - Inflation
  - Mixed

Source: Bloomberg/Invesco as of September, 2013.

The Market Expects Treasury Yields to Increase Over the Next Several Years

- Invesco Fixed Income does not believe we will see an increase in the Fed Funds rate before 2015
- Even with tapering, the Fed will still be very accommodative in terms of policy
- With the Fed Funds rate likely anchored through 2014, intermediate to long Treasury rates are limited in the amount they can rise

		2013	**2014**	**2015**
Outer boundaries given historic relationships:				
Fed Fund Futures Implied Rate		0.08%	0.28%	0.91%
Forward 2 Year Treasury Yield	Sept '13 2 Yr 0.35%	0.50%	1.19%	2.06%
Forward 10 Year Treasury Yield	Sept '13 10 Yr 2.72%	2.81%	3.16%	3.47%
Historical Maximum Projected 2 Year Treasury Yield *		2.53%	2.73%	3.36%
Historical Maximum Projected 10 Year Treasury Yield **		4.19%	4.39%	5.02%
Invesco		**Lower**	**Neutral**	**Higher**

*Using maximum 2yr to Fed Funds spread +245 bps
** Using maximum 10yr to Fed Funds +411 bps
Bloomberg as of 9/23/13.

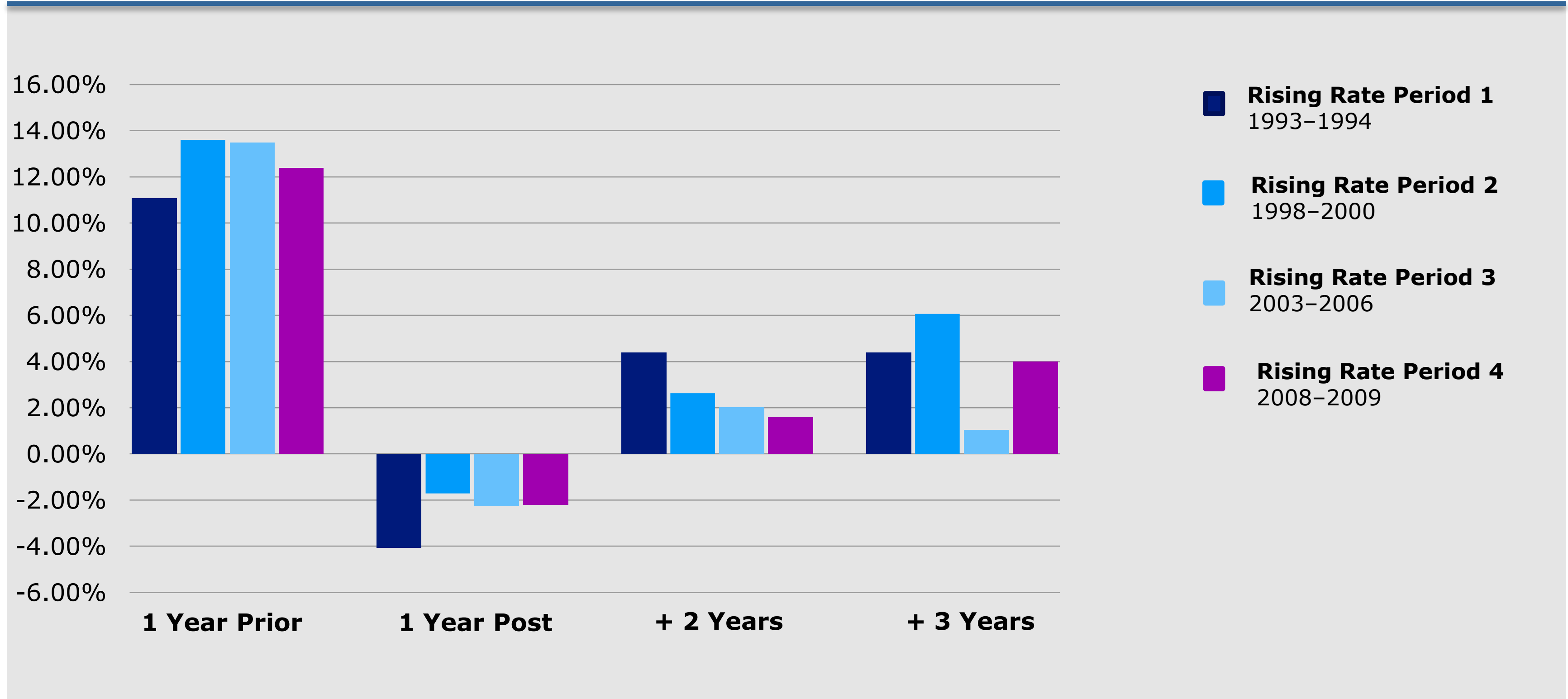
Fed Policy Depends on Three Pillars of Economic Environment: Growth, Inflation and Employment

- Tapering of unconventional policy (QE) as well as conventional policy changes will be dependent on developments in growth, inflation, and unemployment
- While we anticipate continued improvements in GDP growth, we believe it will be lower than levels at this point in other cycles given ongoing deleveraging and subdued consumption.

	Dec 2013			Dec 2014			Dec 2015		
	Real GDP	**Core PCE**	**UE**	**Real GDP**	**Core PCE**	**UE**	**Real GDP**	**Core PCE**	**UE**
Bloomberg Consensus	2.15	1.25	7.20	3.00	1.60	6.60	3.25	1.85	6.05
FOMC Forecast	1.60	1.30	7.50	2.65	1.70	6.90	3.00	1.90	6.40
Invesco	2.25	1.25	7.2	2.50	1.60	6.50	2.75	1.75	6.00

Source: Bloomberg, Invesco, Federal Reserve as of September, 2013.

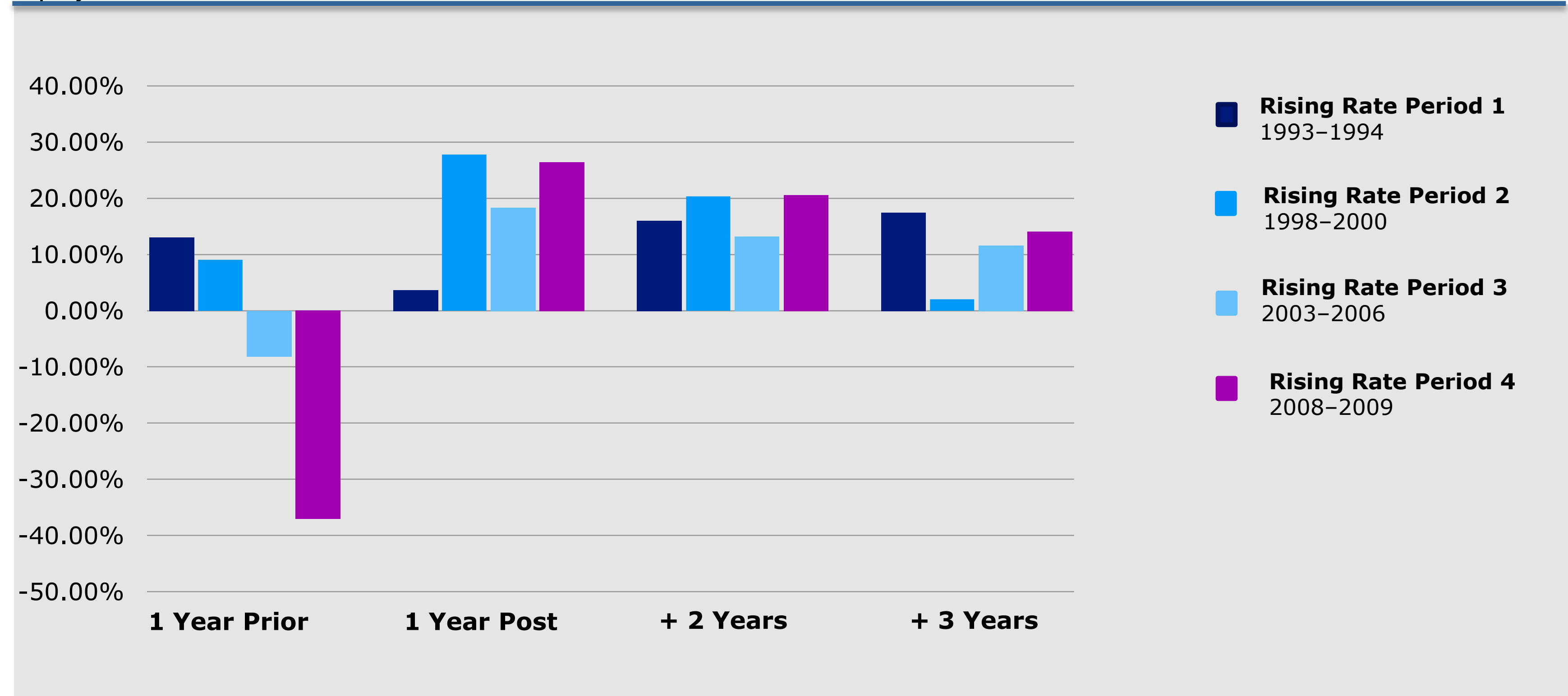
Asset Class Performance for U.S. Governments Produced Somewhat Non-Intuitive Results



Returns are annualized.

Source: Lipper Inc. US Government Bonds are represented by the Barclays Government Bond Index.

Equity Returns During the Four Time Periods Were Positive Each Year Following the Increase in Rates

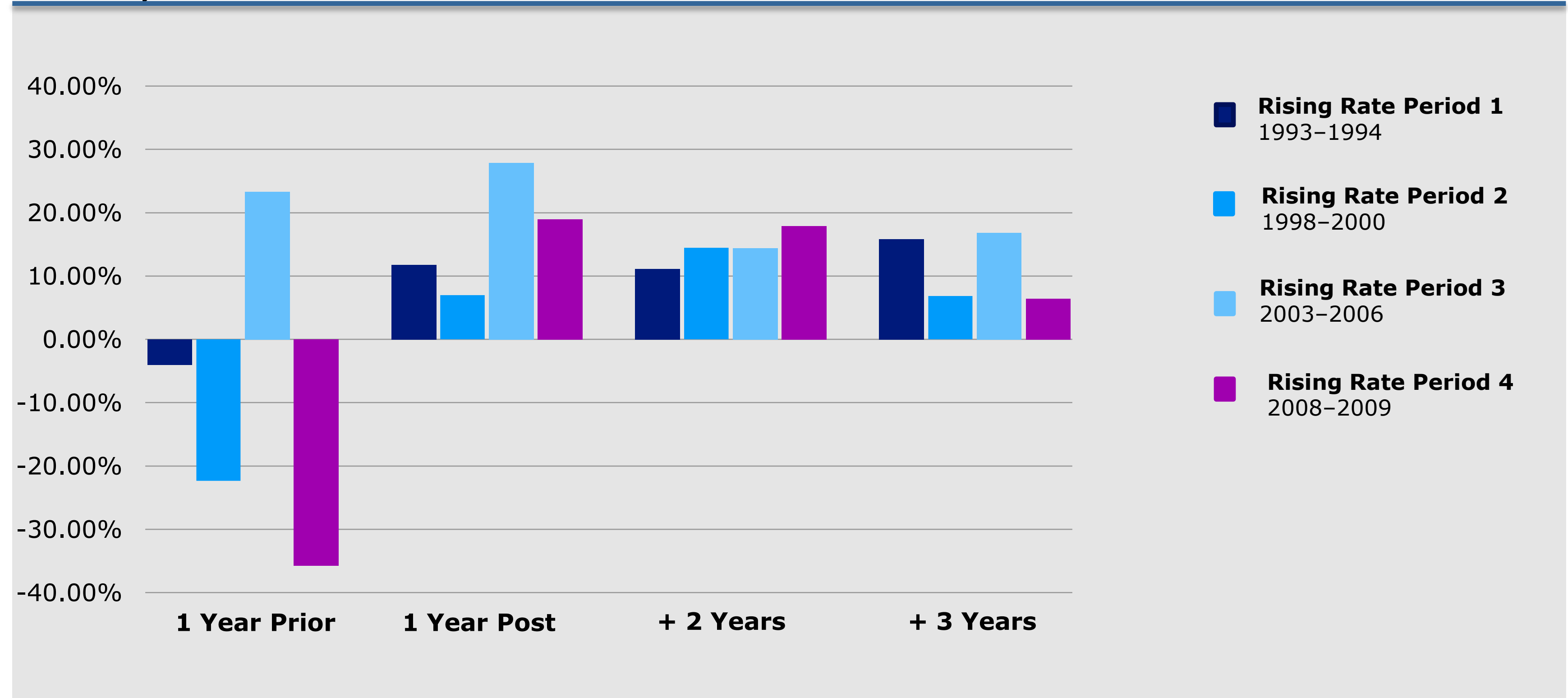


Returns are annualized.

Source: Lipper Inc. Equity returns are represented by the S&P 500 Index.

Like Equities, Commodity Returns Were Positive for Periods after the Rate Increase

Commodity Returns

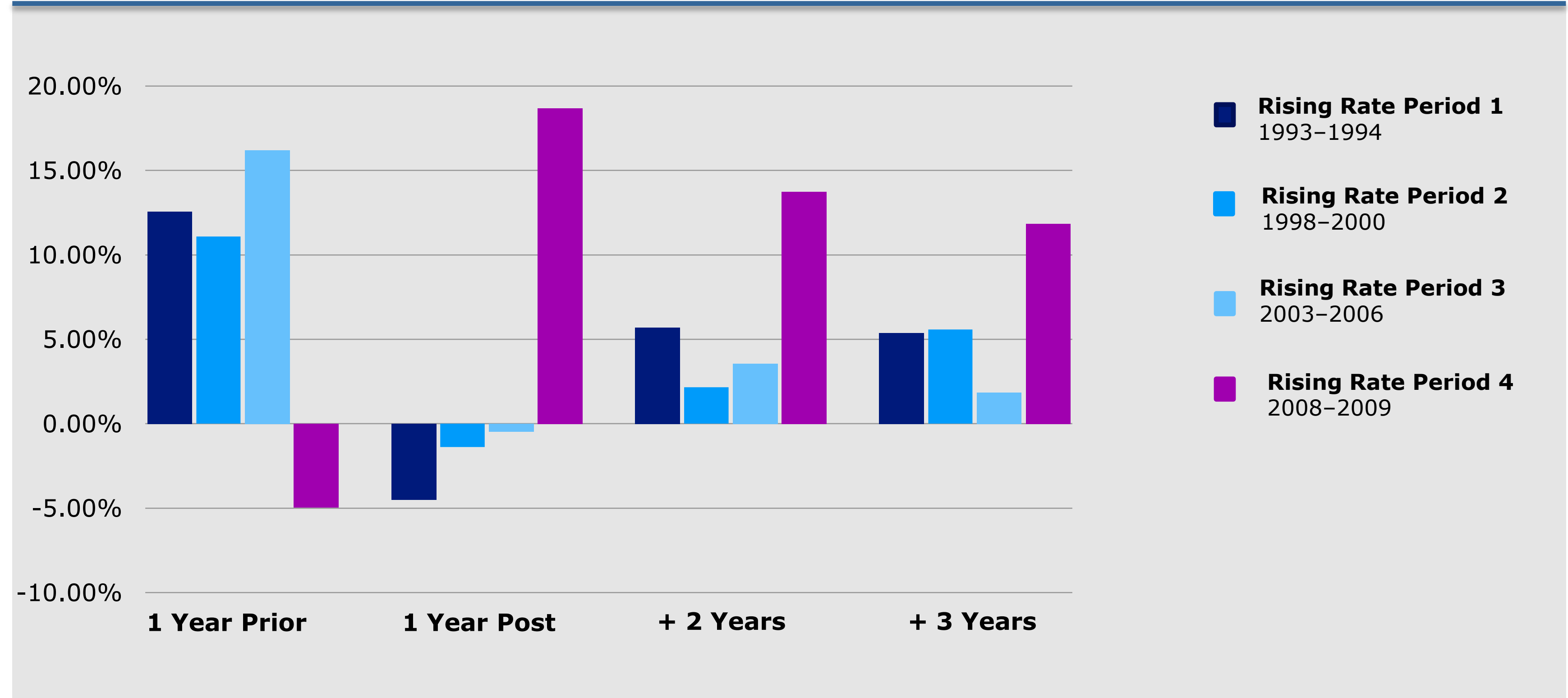


Returns are annualized.

Source: Lipper Inc. Commodity returns are represented by the DJ UBS Commodity Index.

After the First Year of Rate Increases Investment Grade Returns Were Positive

U.S. Investment Grade Returns



Returns are annualized.

Source: Lipper Inc. Investment Grade Corporate Bonds are represented by the Barclays Corporate Investment Grade Index.

U.S. Retail Industry Fund Flows Often Slow But Do Not Necessarily Turn to Outflows in a Rising Rate Environment

	Investment Grade	US Government	Global/ Int'l Fixed	High Yield/ Other Fixed	Taxable Fixed Total	Tax-Free Fixed	Long-Term Fixed Income Total	Money Market	Equity	Alternative	Grand Total
+	2, 3, 4	4	1, 3, 4	1, 4	1, 4	4	4	1, 2	1, 2, 3	3, 4	1, 2, 3
N				2, 3		3	1, 2, 3	3	4	1	4
-	1	1, 2, 3	2		2, 3	1, 2		4		2	

Period	Years
1 Period 1	1993–1994
2 Period 2	1998–2000
3 Period 3	2003–2006
4 Period 4	2008–2009

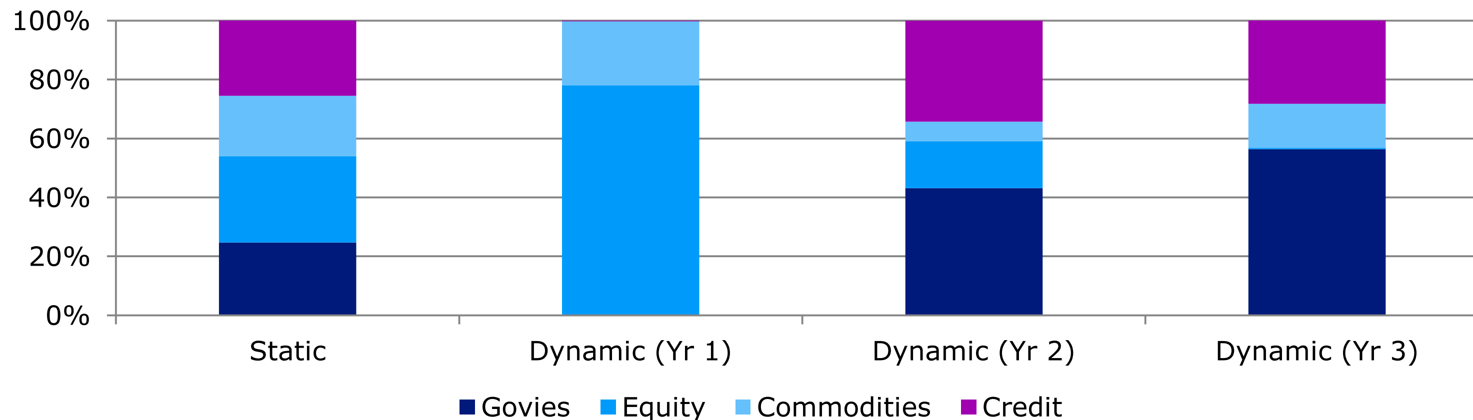
"+" = Greater than 2% positive punch ratio during the rising rate period.
"N" = <2% and >-2% punch ratio.
"-" = Less than -2% punch ratio during the rising rate period.
Punch Ratio = Period Net Flows / Beginning of Period Assets

Source: Invesco analysis, Strategic Insight.

Based on Analysis There are Considerations for Asset Allocation in Rising Rate Scenarios

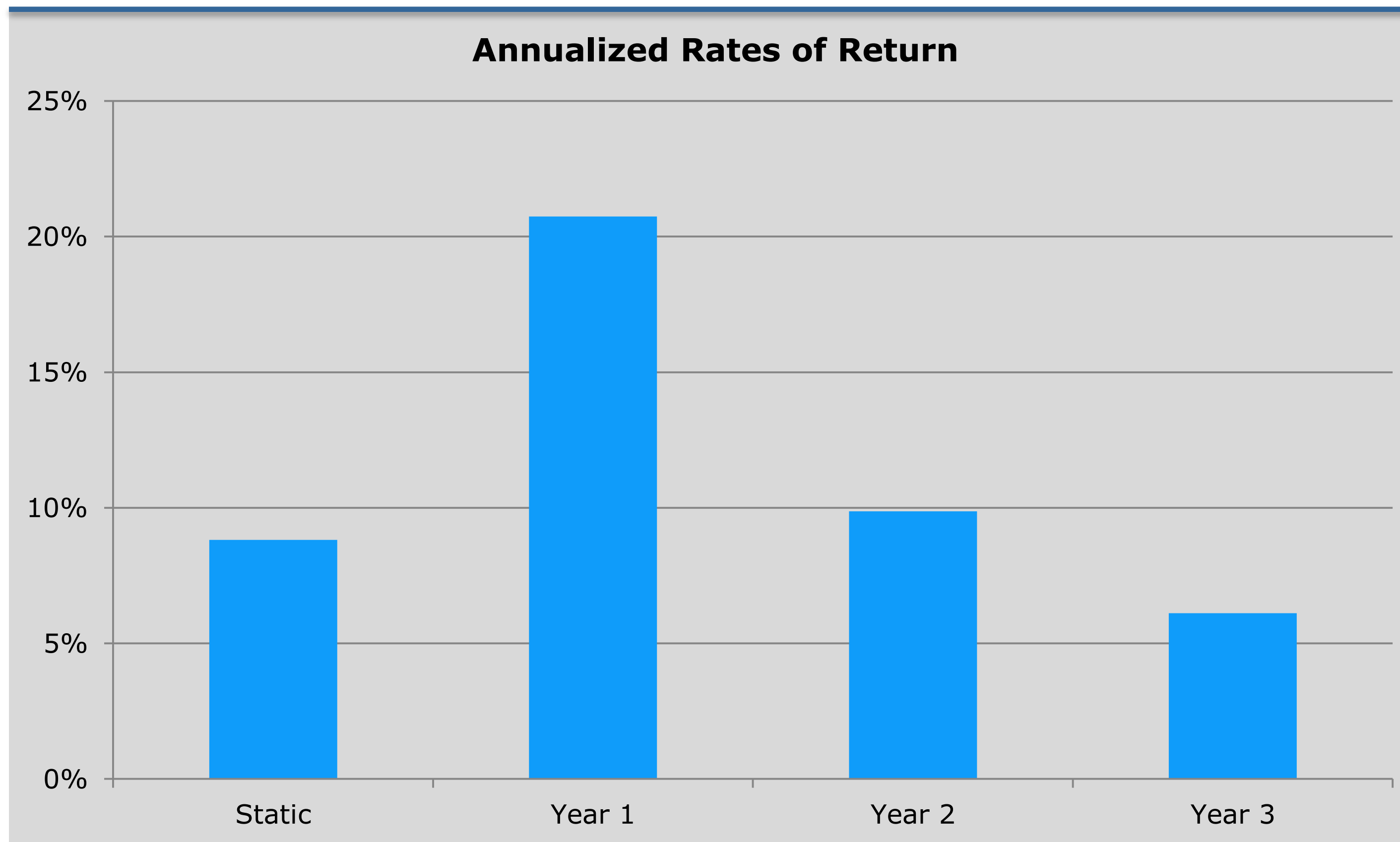
Static vs. Dynamic allocation

- Static allocation is evenly distributed across all major asset classes
- Dynamic allocation, based upon perfect hindsight, would result in material annual changes in the asset mix
  - Equities and Commodities provide the best solution in Year 1
  - Government and Credit allocations increase in Years 2 and 3



Source: Invesco analysis, Barclays/Bloomberg (Government Bonds), Barclays/Bloomberg (Credit), S&P/Global Financial Data (Equities), Dow Jones/Global Financial Data (Commodities)

A Dynamic Portfolio Produces Stronger Risk Adjusted Returns But Timing and Transaction Costs are Important



	Static*		**Dynamic***
Return	8.8%	Return	12.2%
Risk	5.6%	Risk	6.5%

Source: Invesco analysis, Barclays /Bloomberg (Government Bonds), Barclays /Bloomberg (Credit), S&P/Global Financial Data (Equities), Dow Jones/Global Financial Data (Commodities). *Static and Dynamic returns and risk are annualized.

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