What Advisors Need to Know about Monetary Policy and Domestic Stock Returns

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ABSTRACT

Clients are often concerned with the impact of macroeconomic factors on their stock portfolios. Recent shifts in monetary policy and the consequent appreciation of the dollar have topped the business news headlines. How have stocks performed under different monetary policies and dollar trends? Historical equity returns have been positive regardless of the monetary policy or dollar trend. Advisors can use the historical results to keep clients focused on a long-term investment strategy instead of overreacting to the latest news story. This analysis also identifies two scenarios when stocks provided average returns 10 percent above/below the historical average.

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Introduction

The end of quantitative easing is perhaps the most popular business story in recent years. Due to the tight relation between interest rates and exchange rates, the appreciation of the dollar is a closely related topic. How do these economic matters impact domestic stock portfolios? What related advice should financial advisors offer their clients?

These issues are of increasing importance due to the diverging performance of developed economies. In 2014 economic growth accelerated in the U.S., and the Federal Reserve is expected to slowly increase interest rates to normal levels. In contrast, the Japanese and European monetary authorities are keeping interest rates low as their economies remain stagnant.

These differences in monetary policy impact foreign exchange markets and can result in dramatic swings in equity valuations. An example is the Swiss franc, which the Swiss National Bank pegged to the euro in 2011. With the European Central Bank moving towards quantitative easing, the Swiss National Bank decided to end the peg in January 2015. The immediate reaction was a 15 percent appreciation in the Swiss franc relative to the euro and a drop in the Swiss stock market of almost 10 percent.

Such events involve stunning levels of volatility and distract many investors from a disciplined approach to achieving long-term investment goals. As a first step to avoiding overreaction, the economic theo-

ry on the relation between interest rates, which are the primary tool of monetary policy, and exchange rates is examined. Then, the historical equity returns that are key to advising clients on these issues are highlighted.

Exchange Rates and Investment Returns

The International Fisher Effect describes the relation between the expected change in the foreign exchange rate and the differences in interest rates. This is shown in the equation below, which includes the spot exchange rate between the euro and the dollar ($S^{€/\$}$). This rate is the number of euros (€) needed to currently buy a dollar.

$$\frac{E[S_1^{€/\$}]}{S_0^{€/\$}} = \frac{1 + i^{€}}{1 + i^{\$}}$$

The left side of the equation shows the expected exchange rate in one year divided by the current exchange rate. This ratio increases as the dollar is expected to appreciate relative to the euro (€). The right side of the equation includes the interest rate (i) in each currency.

Nominal interest rates have two main components: the real interest rate and compensation for inflation.[1] The key assumption of the International Fisher Effect is that real interest rates in the countries are equal, so nominal interest rate changes are caused by fluctuations in inflation expectations. If the euro interest rate declines, then the International Fisher Effect implies that the dollar should depreciate relative to the euro due to the decrease in European inflation. However, if the euro interest rate declines without a change in the expected inflation rate, then the lower real euro interest rate will typically cause the euro to depreciate relative to the dollar. Investors will find it less attractive to hold euros when their inflation-adjusted compensation (the real rate) declines.

While these economic relations are challenging to understand, it is important to be able to explain succinctly how these matters impact a client's portfolio to avoid overreacting to the latest headline. Financial advisors should understand two important conclusions from this theory. First, interest rates are closely related to fluctuations in the foreign exchange rate. Second, the primary cause of an interest rate change, either a change in inflation or the real interest rate, determines the effect on the exchange rate and stock market.

To assist advisors in explaining these issues to clients, this analysis focuses on three issues:

(1) the relation between monetary policy and domestic stock returns;
(2) the relation between the dollar's value and domestic stock returns; and
(3) the economic environments in which the equity markets significantly underperform/overperform the historical average.

Domestic Stocks

Monetary policy affects interest rates, and economic theory predicts a close relation between interest rates and foreign exchange rates. But should investors in domestic stocks even care about exchange rates? Consider the Standard & Poor's (S&P) 500 Index.

As it serves as the benchmark for portfolios worth over $7 trillion, the S&P 500 Index is the most popular measure of large capitalization stock performance.[2] S&P excludes foreign-based companies from being index constituents. While consisting only of domestic stocks, this stock index might be viewed as less sensitive to exchange rate fluctuations. But the exact exposure is impossible to determine since U.S. accounting rules do not require firms to report foreign sales. One estimate suggests that non-U.S. sales are just over a quarter of total sales for all the Index constituents.[3]

However, for those firms in the S&P 500 Index that do release foreign sales, 46 percent of sales in the last 3 years were of products manufactured and sold outside of America. Many prominent members of the Index have the majority of their revenue and earnings exposed to the dollar's value. As examples, consider the revenues for Chevron, Apple, and IBM in the 12 months ending in September 2014. Foreign sales as

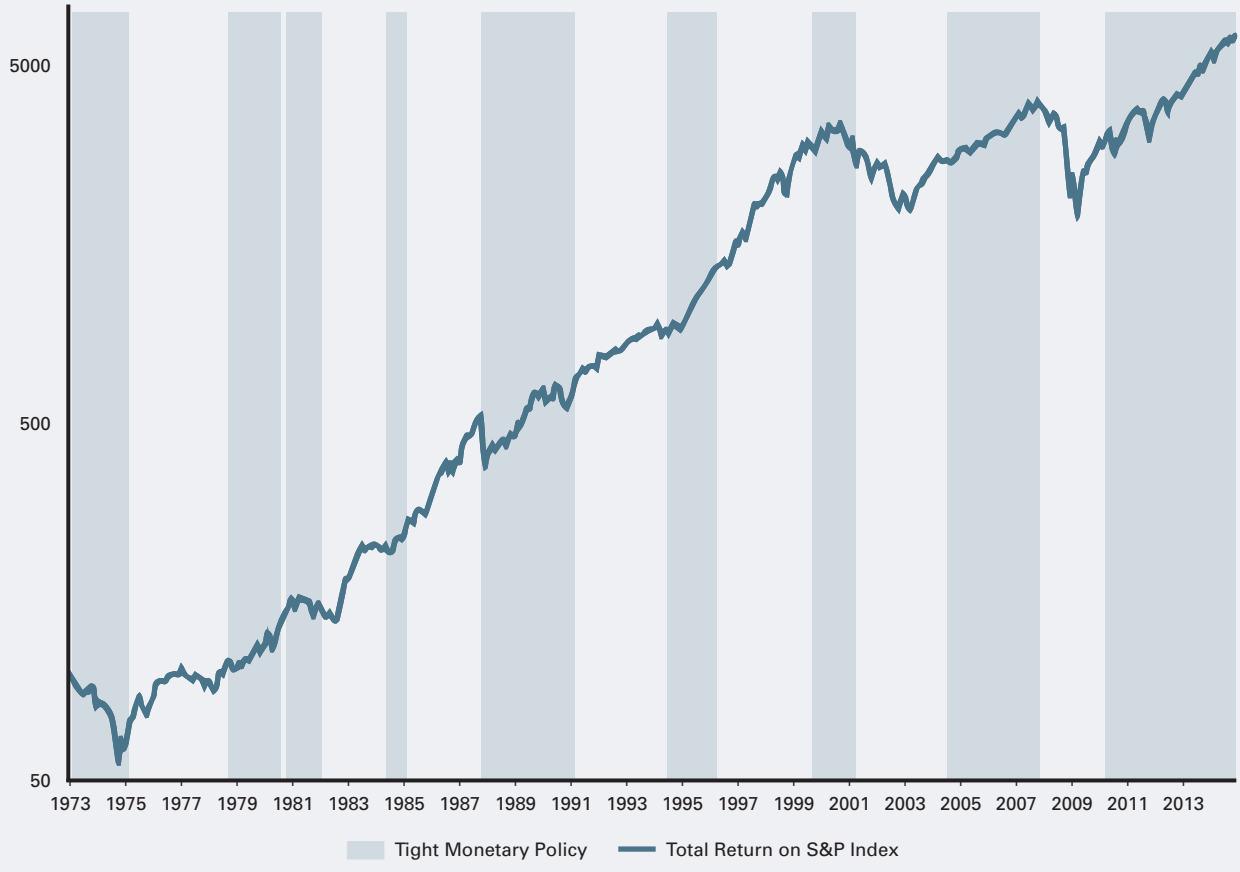
a percentage of total revenue for the companies were 77 percent, 62 percent, and 67 percent, respectively.

Due to the significant foreign exchange rate exposure of these stocks, the performance of the Index during periods of large changes in the dollar's value is examined. As illustrated with the International Fisher Effect, these currency fluctuations can be caused by changes in monetary policy and interest rates.

Returns and Monetary Policy

The Federal Reserve is tasked with establishing monetary policy to maximize employment, stabilize prices, and promote moderate long-term interest rates. To examine how domestic stock returns are related to monetary policy, a simple rule is utilized for classifying their policy stance. This study classifies all months between January 1973 and November 2014 as having either tight or loose monetary policy. The Federal Reserve has historically signaled its monetary policy using the discount rate, which is the interest rate that it charges financial institutions for borrowing funds. A period of tight monetary policy begins with an increase in the discount rate and ends with a cut in this interest rate. When the discount rate is lowered, a period of loose monetary policy starts and it ends with a rate hike. Prior research uses the discount rate in a similar manner for identifying monetary policy.[4]

FIGURE 1
S&P 500 Index Total Return and Tight Monetary Policy Periods



Since 1973 the U.S. had nine periods of loose monetary policy according to this classification rule. The periods have an average length of 2.5 years and include an average of seven discount rate cuts by the Federal Reserve. The analysis period also includes nine occasions of tight monetary policy that have an average of six discount rate increases and last an average of 2.3 years. Figure 1 shows the total return (capital gains and dividends) on a $100 investment in the S&P 500 Index on January 1973. The shaded areas represent months during tight monetary policy.

Table 1 provides the annualized total return on the S&P 500 Index over the last 42 years. During this entire period, the Index provided an annualized total return of 10.3 percent. When monetary policy was loose during these 42 years, the average return was 14.1 percent. As expected, equities have provided attractive returns when the Federal Reserve is attempting to stimulate the economy.

The surprising result is that the S&P 500 Index returned 8.6 percent when monetary policy was tight.

TABLE 1
Annualized Total Returns on the S&P 500 Index*

Period	Index Return
January 1973 – November 2014	10.3%
Loose monetary policy	14.1%
Tight monetary policy	8.6%
Dollar depreciating	7.2%
Dollar stable	10.2%
Dollar appreciating	15.9%
Dollar appreciating, Loose monetary policy	19.7%
Dollar appreciating, Tight monetary policy	12.7%
Dollar depreciating, Loose monetary policy	14.1%
Dollar depreciating, Tight monetary policy	-1.3%

*This table shows annualized returns on the S&P 500 Index that include both capital gains and dividends.

Despite the Wall Street saying, "Don't fight the Fed," periods of rising interest rates are not a disastrous time to own domestic stocks. Nominal interest rates can be pushed higher by two factors. The first factor is increased inflation expectations, which lower the value of financial assets such as stocks. This is the reason that market lore fears higher nominal interest rates.

The second factor that can increase nominal interest rates is real interest rates. An increase in real rates can push nominal rates up even when inflation is unchanged or falling. Higher real interest rates can occur in environments that are favorable for stock investments. Strong economic growth typically pushes the demand and compensation for capital higher. During these times, corporate revenues and profits tend to propel stock prices higher and offset the effects of higher interest rates.

Our simple system for classifying monetary policy has drawbacks. This is shown by the shaded area on the far right of Figure 1. The Federal Reserve hiked the discount rate from 0.5 percent to 0.75 percent on February 19, 2010. This began a period classified as tight monetary policy that continued until November 2014. However, the Federal Reserve used extraordinary measures to stimulate the economy that were not reflected in the discount rate. They bought mortgage-backed securities and Treasury notes worth trillions in a program called quantitative easing. As the economy failed to recover, the Federal Reserve announced a second round of quantitative easing in November 2010 (QE2) and a third round (QE3) in September 2012.

How are the results impacted by the likely misclassification of the latest monetary policy period? Under this simple classification system, the most recent loose monetary policy period began after the Federal Reserve lowered the discount rate from 6.25 percent to 5.75 percent in August 2007. If one assumes this loose monetary policy continued until the end of the analysis period, the annualized return is 6.5 percent for tight periods and 14.4 percent for loose periods. In other words, the results are largely the same. Loose

monetary policy periods coincide with outstanding domestic stock returns but tight periods have also provided decent returns. In contrast to the concerns of many investors, rising interest rates have not on average coincided with stock market losses.

Returns and Exchange Rates

This paper also examines how the value of U.S. currency is related to equity returns. The analysis classifies periods of dollar appreciation or depreciation using the Real-Trade Weighted U.S. Dollar Index: Major Currencies, which the Federal Reserve System started calculating in 1973. The currencies of the major developed countries started floating when the U.S. ended the policy of pegging the dollar to the price of gold. Table 2 shows the periods in which the real value of the dollar changed by at least 20 percent. All other times are classified as periods of dollar stability.

Figure 2 plots the total return on the S&P 500 Index with the shaded months indicating periods of dollar appreciation.

While large capitalization companies have significant exchange rate exposure, historical returns do not provide a reason for investors to fear an appreciation in the dollar. The annualized total return was 15.9 percent while the dollar was appreciating against major currencies. These upward trends in the dollar are caused by rising real interest rates during periods of strong economic growth when businesses and consumers increase their demand for capital.

The S&P 500 Index has provided a 7.2 percent return during periods of dollar depreciation relative to the major currencies. While this is less than half of annualized total return during significant uptrends in the dollar, these are not clearly periods in which investors want to avoid stocks.

Currency Fluctuations from a Monetary Policy Perspective

The bottom half of Table 1 shows periods classified by both dollar changes and monetary policy. The most significant period of outperformance occurs when the dollar is appreciating under loose monetary policy. The annual return has been 19.7 percent over such periods or approximately 10 percent higher than the 10.3 percent return over the entire period of our study.

What explains the relatively high returns during these times? Recall that changes in nominal interest rates can be driven by two factors: real interest rates and inflation expectations. The strong economic growth during these periods pushes real rates higher and the dollar upward. At the same time, low inflation allows the Federal Reserve to continue a loose monetary policy.

The bottom row of Table 1 shows that the least attractive time to own domestic stocks has been when the dollar is depreciating under tight monetary policy. The annualized return during this time is -1.3 percent, or almost 12 percent below the return during the entire analysis period. Stocks are not favorable investments during these times as the dollar is depreciating due to relatively low real rates (a sign of a weak economy) and the Federal Reserve is imposing a tight monetary policy to combat high inflation.

TABLE 2
Significant Changes in the Real Value of the Dollar*

Dollar Change	Period	Percent Change
Depreciation	January 1973 – October 1978	-24%
Depreciation	March 1985 – April 1988	-38%
Depreciation	February 2002 – March 2008	-34%
Appreciation	October 1978 – March 1985	60%
Appreciation	April 1995 – February 2002	49%
Appreciation	July 2011 – November 2014	21%

*This table shows change of at least 20% in the Real-Trade Weighted U.S. Dollar Index: Major Currencies that is calculated by the Board of Governors of the Federal Reserve System.

How This Applies to the Advisor's Practice

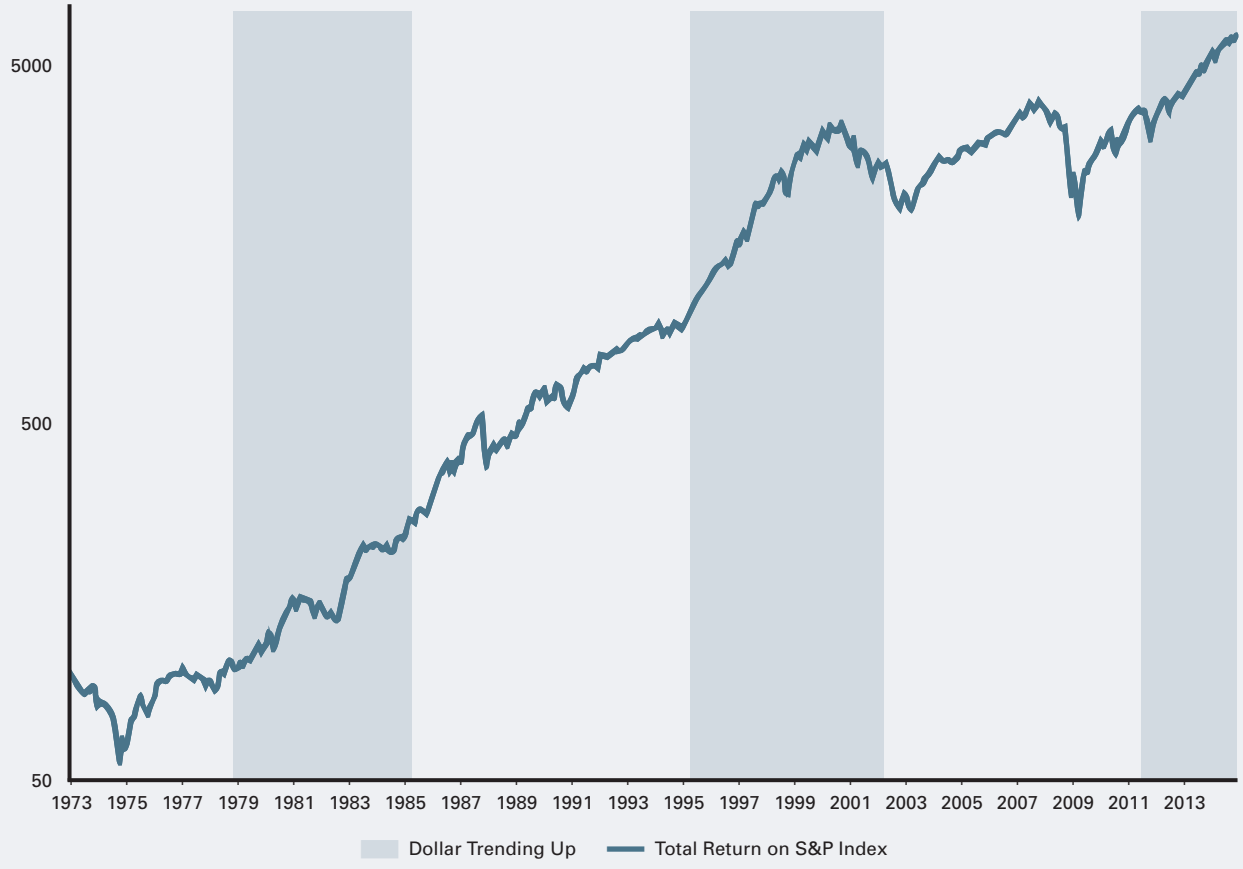
People often struggle with their ability to maintain a disciplined approach to saving and investing. This is particularly challenging as there is increasing exposure to the latest news stories like forthcoming interest rate hikes or large changes in the dollar's value.

Financial advisors can assist their clients in maintaining a long-term focus with three results from this analysis. First, a diversified domestic stock portfolio provided a positive average return over the last four decades regardless of whether the Federal Reserve was raising or lowering interest rates. Annualized stock returns were 14.1 percent during loose monetary policy, and equity investments still provided solid returns (8.6 percent) during rate hikes by the Federal Reserve.

Second, historical returns do not suggest that currency trends should be a primary determinant of investment decisions. Returns were 15.9 percent when the dollar was appreciating despite the increasing international exposure of U.S. companies. However, large capitalization stocks provided total returns of 7.2 percent even when the dollar was significantly depreciating.

Finally, monetary policy should be analyzed along with currency trends, which can indicate whether interest rate changes are caused by movements in inflation or real rates. Stock returns have

FIGURE 2
S&P 500 Index Total Return and Periods of Significant Dollar Appreciation



been almost twice their average return over the past 42 years when the dollar is trending up under loose monetary policy. Stocks investments have produced negative returns when the dollar is depreciating during tight monetary policy. In other words, reduce the allocation to domestic stocks when the economy is weak and inflation expectations are rising. ■

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(1) According to the Fisher equation, one plus the nominal interest rate equals one plus the real interest rate times one plus the inflation rate.
(2) For a detailed description of the index, see the Standard & Poor's Web site at us.spindices.com.
(3) Howard Silverblatt, "S&P 500 2013: Global Sales Year in Review," S&P Dow Jones Indices, September 2014.
(4) For related research on monetary policy, see James R. Booth and Lena Chua Booth, "Economic Factors, Monetary Policy, and Expected Returns on Stocks and Bonds," *Economic Review: Federal Reserve Bank of San Francisco* No. 2 (1997): 32-42. Another related paper is by Laurie Prather and William Bertin, "A Simple and Effective Trading Rule for Individual Investors," *Financial Services Review* 6, No. 4 (1997): 285-294.