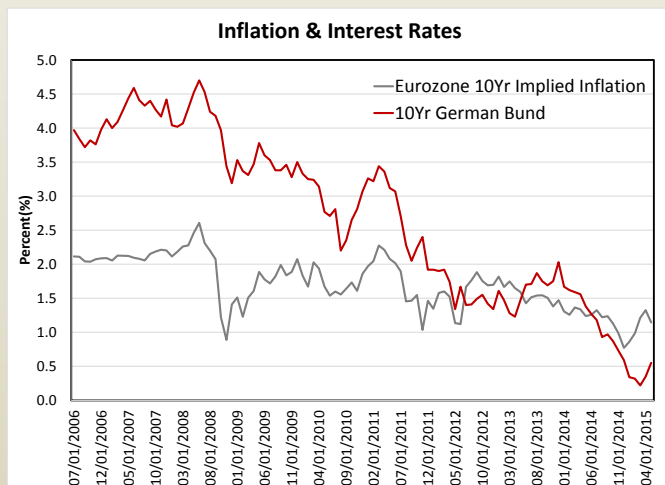




*Markets are constantly in a state of uncertainty and flux and money is made by discounting the obvious and betting on the unexpected. - George Soros*

In 1929, a Hungarian author named Frigyes Karinthy introduced the concept of interconnectivity through a work entitled "Chains." The work, although fictional, captivated the interest of

mathematicians and sociologists worldwide, as it related to network theory. In particular, Karinthy suggested that given advances in technology and travel, everyone and everything was no more than six or fewer steps away from each other. Many years later, this came to be known as the concept of Six Degrees of Separation.



*Bond prices and their corresponding yields are closely related to the level of expected inflation over the horizon of the bond. As expectations for inflation change so will the price and yield characteristics.*

Data Source: Barcap Live

The original concept and many of its off-shoots pertained to people and social relationships; the topic of our 3Q Market Insights is to present this topic from the perspective of global capital markets. What does Eurozone Inflation or, for that matter any major currency inflation rate, have to do with US Equity and Fixed Income market performance? Most, would answer very little or nothing at all. Yet, I stand here today ready to state that the two concepts are perhaps surprisingly, but undoubtedly

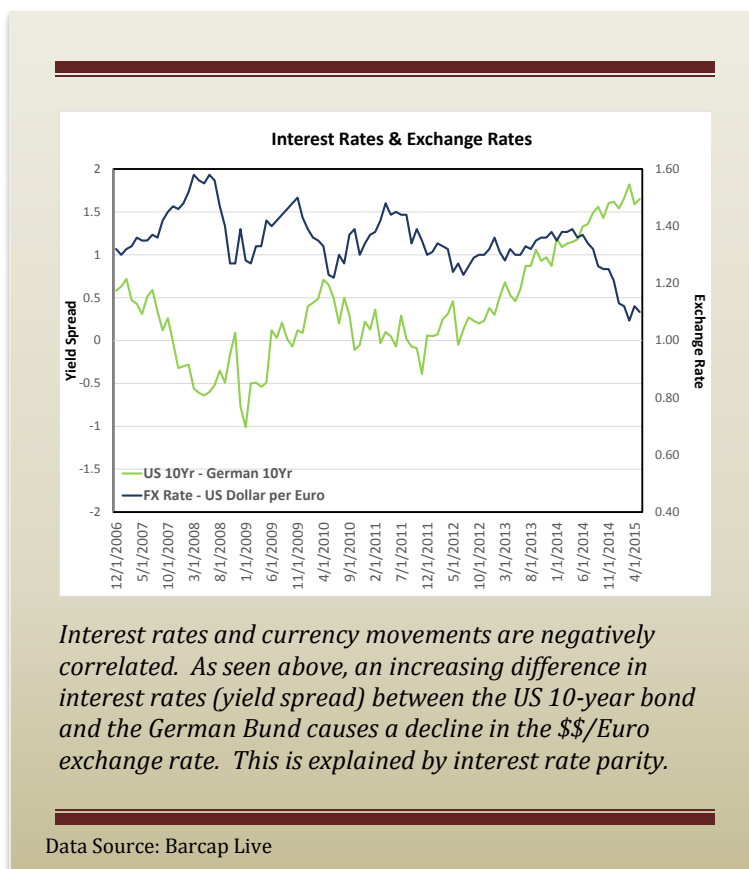
related. Why are policy makers so concerned about the strength of the US Dollar? Again, I state without doubt or hesitation that it matters in ways that you may not expect. In particular, we will explore how many seemingly unrelated events tie us together in an interconnected capital markets framework of Six Degrees of Separation.

**(Degree 1) Inflation Influences Rates** - In golf, it is said that the handicap is the great equalizer among players of all abilities. In investing, inflation is the great equalizer. All assets, big and small, react to inflation rates. This certainly and very directly applies to the level of sovereign interest rates. International Sovereign debt, simply stated, is nothing more than foreign treasury bonds. These are debt obligations of foreign government entities that can be purchased by investors. At each purchase interval, the nominal return is known with certainty if held for the horizon (until maturity) of the bond and purchased at par (\$100). If you buy a 3% coupon government bond for \$100, US or foreign and hold it to maturity, the return will be 3% annually. The great unknown is what your real return (inflation adjusted) will be. At the time of purchase, that 3% hypothetical coupon level comes built-in with an assumed or implied rate of inflation for the life of the bond, plus a modest additional premium (both part of the 3%). This premium is the real return. Without it, your investment may grow by 2% per year, but if inflation is the same, what have you earned? You might have 2% more per year, but when your bond

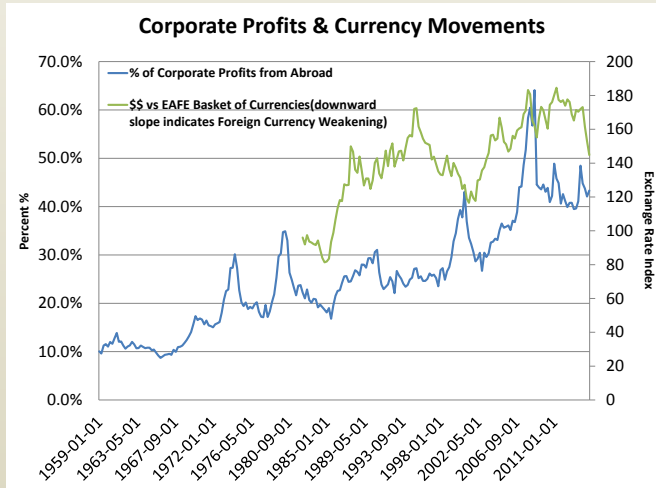
matures, you will find goods and services 2% more expensive. The real return compensates you for your time and liquidity (or lack thereof). So, hypothetically, what happens to rates if instead of expecting 2% inflation they began to expect 4%? Can bond markets still entice investors with 3% yields? Probably not. That would lock in a loss of purchasing power of 1% per year. Keeping the same real return relationship in tact, markets would now need to price bonds to yield 5%. The point being, inflation impacts all assets. Sovereign bonds and their rates are not beyond the reach of inflation. Higher inflation rates command higher bond yields and vice versa.

## (Degree 2) Rates Influence

**Currency Values** - While the first degree of separation is fairly straight forward and intuitive, the second is a bit more complicated. That is, interest rates, or more specifically relative interest rates, impact currency valuations in the short-term. This is driven by two somewhat related topics, Interest Rate Parity and the carry trade. Interest Rate Parity states that a riskless profit cannot be earned by borrowing in one currency and investing in deposit instruments of another. Any incremental carry, or interest rate that can be earned, will be eliminated by depreciation of the higher yielding currency. In practice, this only holds loosely, as evidenced by the carry trade. A few months ago, investors seeking higher deposit rates could borrow in Germany for almost nothing and invest in US 10-year bond yielding approximately 2%. The difference is meaningful especially considering that some hedge fund investors may add leverage to this equation and turn a 2% spread into a 20, 30 or even 40% spread.



**(Degree 3) Dollar Strength Impacts Corporate Profits** – The relationship here is relatively straight-forward. A portion of US aggregate profit margins can be attributed to purchases abroad. Beginning in the late 1950's, the percentage of US profits derived from abroad was a meager 10%. That same number peaked at 64% in 2008 and stands at more than 40% today. The maturation of our society certainly has something to do with this. Earlier this decade the weak US dollar made our goods more competitive in a global market place. However, currency conversion also has something to do with this. As multinational companies transact in local currencies, profits are reported back in US dollar terms. A continually weakening currency will be a big tailwind to US profits as local currency transactions are converted back to a weak dollar. As a result of this, transactions in the local currency will buy more dollars when the dollar is weak than when it is strong. This is empirically shown in the chart on the following page. There are literally dozens of variables that impact the percentage of profits derived from abroad. Surprisingly, the change in the Dollar/Euro exchange rate explains roughly half of the movement (R-squared of 50%). If we extend the relationship beyond the single pair of dollar to Euro to the dollar vs. a complete international basket of currencies (all currencies that make up the developed world), the relationship explains more than 70% (R-squared of 71%). Consequently, US Corporate profits show an overall correlation of .78 to changes in the US dollar exchange rate relative to the developed world.



*Both increased sales from foreign consumers and gains from currency conversion act to boost the percentage of profits from abroad during a weakening dollar environment. In a strengthening dollar environment both become a headwind to corporate revenues and profits by US multinationals.*

Data Source: MSCI, Federal Reserve

**(Degree 4) Corporate Profit Margins & Earnings** – This is almost like saying, “department of redundancy department”, but the relationship between margins and profits is a critical step in our exercise. Net profit margins or, in accounting terms, Net Income/Sales should intuitively have a direct impact on a company’s earnings per share or Net Income/Shares Outstanding. Holding all else constant (i.e. revenues, expenses, taxes, etc.), as a company’s profitability increases so does their bottom line earnings. We can observe this statistically through the relationship’s R-squared of 0.43, which indicates that 43% of the variability of earnings is attributable to changes in profit margins.

**(Degree 5) Earnings impact Valuations** - Profits and earnings are one of the more reliable mean reverting series in all of finance.

From an economic perspective this occurs in two ways, crowding out and increased competition. Crowding out occurs here when businesses consume so much of the economic pie that the wage earners suffer. Who spends money to create the profit in the first place? The wage earners. If businesses take too much for themselves at the expense of wage earners, they are in essence cutting off their own life blood. The other impact that causes the mean reverting nature of profits is increased competition. This relates directly to Adam Smith’s Invisible Hand Theorem; the idea that large profit opportunities in any market or business will tend to attract competition. This increase in competition will persist until profits are driven down to a normal level and equilibrium is restored, hence Smith’s Invisible Hand. Sell oranges on one corner and earn a large profit and it won’t be long until the apple retailer down the street decides that maybe he should sell oranges too.

The cyclical nature of earnings and profits can act as either a headwind or tailwind to valuations in the short-term, but in the long-term they do nothing more than mislead us. Take for instance a P/E of 15x. Is it relevant if the E component of P/E is a cyclically depressed number or a cyclically high number? Remember the series is mean reverting. If it is cyclically depressed, it is poised to rebound upward. If it is cyclically high, look out below. What this means to valuations is that they can be misleading if we don’t normalize for this cyclicity. A 15x P/E based on historically high earnings will lead to a very different performance outcome than one that is based on depressed earnings. The historical high earnings P/E will likely see earnings erode and the P/E will rise due to the falling E. This ebb and flow of both profits and earnings can have an important impact on valuations. This subtle impact is felt with full force by investors in Degree 6.

**(Degree 6) Valuations Impact Returns** – This is one of the most irrefutable points that can be made in investing. First let me acknowledge the obvious. Value traps in single stocks can happen. Large, seemingly well established companies like Enron can disappear once they become cheap. This is not the relationship we are discussing. Rather, this single security risk can be eliminated through simple diversification. Simply stated, valuations drive diversified

asset class performance. Over longer periods of 10 years or more, few things matter more than beginning period valuations. The relationship is statistically strong (R-squared of 87%), meaning that 87% of the price movement of an asset class over a 10-year period can be explained by its relationship to fair value. It is also negatively correlated, meaning that price movements tend to be positive and larger for low valuations and smaller or negative for high valuations. Said differently, valuations tend to converge to the average. High valuations tend to reduce future performance, while low valuations can enhance it.

	Quintile	Adjusted P/E	Average 10 Year Forward Return	Standard Deviation of Returns	Max Return	Min Return	# Negative 10 Year Periods
Most Expensive	1	28.34	3.68	3.82	10.26	-4.95	46
	2	19.53	8.03	4.02	18.21	-2.87	7
	3	15.80	11.21	4.59	19.49	0.75	0
	4	12.19	13.41	3.54	18.72	4.7	0
Least Expensive	5	9.44	15.57	3.05	21.43	5.98	0
	Average	16.96	10.44	5.66	21.43	-4.95	53

\*Data Range: 12/31/1925 to 12/31/2014

*From the table above, we can see that high valuations can reduce returns over the coming 10-years while low valuations can enhance them. We can also see that all negative 10-year periods were the result of environments with a beginning valuation in the top two quintiles (aka both overvalued).*

Data Source: Standard & Poors

## Conclusion

The take-away here might be a statement of the obvious. Investing, if done well, is truly a complicated effort of understanding multiple overlapping and intersecting variables. It becomes even more complicated when the goal is to manage portfolios over short periods of time that may seem long (1, 2, or 3 years), but in the large scope of an investor's goal is short. To do this, one must not only recognize all of the relationships we just outlined, but they must also anticipate the direction of each of them. No small task. By simply taking a longer-term view, investing becomes simple. Rather than being predictors of outcomes, we become observers of the obvious. To the trained eye, one can spot both expensive and inexpensive assets without forecasting. The challenge then becomes behavioral. That is, having the resolve to maintain your long-term perspective, and the discipline to acquire inexpensive assets and wait for mean reversion.

The second key takeaway relates to policy maker concern over the strength of the US dollar. By virtue of the Six Degrees of Separation, we have shown that seemingly unrelated factors can in fact be related. In this case, a strong dollar can have an impact on US profits, act to shrink earnings, pressure valuations upward and in turn negatively impact US asset class returns. Remember, it wasn't long ago that a certain Fed Chairman was stimulating via a wealth effect (a wealth effect is nothing more than pushing valuations upward to create gains that are spent and, as a result, stimulate the economy). What happens if earnings recede making it apparent just how inflated prices are? This could prove to be a major headwind for US Equities and those that are heavily concentrated in domestic investments. As such, we have and continue to believe that we are properly positioned for the journey that lies ahead. Thank you for your trust and confidence.

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