How the US Dollar Affects Investments

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Executive Summary

We researched a 48.5-year data set from July 1972 through January 2021 to determine if the starting value of the US dollar was correlated with the real returns of 18 different asset classes in the following years. In broad terms, we found that general US assets such as the S&P 500, growth stocks, and high yield bonds had a negative correlation with the starting value of the dollar, producing below average returns during 7-year periods beginning with a strong dollar. Conversely, the returns of international, value, and natural resource stocks were positively correlated with the starting value of the dollar, displaying significantly above average 7-year returns in periods starting with a strong dollar. Standard stock valuation metrics such as P/E, P/C, P/B, and P/S suggest that international, value, and natural resource stocks are significantly undervalued when compared to the S&P 500 and US growth stocks. The dollar research in this letter, plus classic company valuation metrics, combine to increase our confidence that global investment portfolios should currently (Q2, 2023) be tilted to overweight international, value, and natural resource stocks while underweighting the S&P 500 and US growth stocks. At finer resolution, the near-term threat of a recession suggests that we should not yet move to a full overweight position in economically sensitive beneficiaries of a falling dollar, and instead focus on those that are more recession resistant such as a long value/short growth investment strategy.

Introduction

While the relative strength of the US dollar versus a basket of international currencies may seem like an esoteric topic only of interest to global economists and complex multinational corporations, it is actually highly important for basic global investment portfolio construction. Last year, as the dollar strengthened to heights not seen since 2002, we watched as it drove down our non-dollar denominated assets such as international and emerging market stocks. While the dollar has pulled back from the peak it reached in September, 2022, it is still very high relative to history. When the rubber band of any major investment variable has been stretched beyond its normal range, our radar perks up to search for potential opportunities. In this letter, we attempt to answer the question, “how has the value of the dollar affected the returns of various assets in the following years?”

Theoretical Effects of Currency

As a net importer, the US generally does slightly better when the dollar strengthens against international currencies because US companies can effectively buy more international goods and services per dollar spent. As the dollar weakens, the process goes in reverse because the dollar is able to buy fewer international goods and services. The overall effect of currency movements on the US economy is not particularly large because the sum of imports and exports only accounts for about 25% of GDP, and only 4% of GDP is net imports. It is primarily only this 4% of the economy that is better off in periods of a rising dollar.

The US accounts for 16% of global GDP in terms of purchasing power parity, so the 4% of US GDP that is net imports must be balanced by the same amount of net exports spread across the rest of the world economy which is about 5 times as large. This means that on average, foreign countries' aggregate net export to the US is only about 0.75% of their GDP. At this low level, the net export of international countries to the US has only a minor positive effect on their economies when the dollar rises (exporters benefit when their currency falls relative to the country to which they export). It turns out that the primary effect of currency movements on international investments is direct exchange rate effects. For example, if the dollar were to depreciate 33% relative to a basket of international currencies (like it did from February 2002 to September 2007), it would take 50% more dollars to buy the same equivalent value in those international currencies - so from the perspective of a US investor, the foreign investment would have appreciated by 50%. (During the 2002 to 2007 time period, the international MSCI EAFE stock index outperformed the S&P 500 by 59%, which was primarily explained by the 50% appreciation of the international currencies; only a difference of 9% was due to non-direct currency exchange rate effects.) In this example, we see that a falling dollar can be a major tailwind to international investments.

At the level of individual industries, the US natural resource sector is the most sensitive to movements in the dollar because, while commodities are traded globally, they are mainly priced in the dollar. With 84% of the global economy outside of the US, when the dollar weakens, the majority of the world effectively gets a discount on the price of commodities which should increase demand. This increased demand should help the commodity producing companies sell more and become more profitable.

In terms of the investment styles of value and growth, we would expect value to outperform during periods of a falling dollar because value has a much larger allocation to the natural resource sector. Conversely, growth has almost no exposure to the natural resource sector, and has a large overweight to the technology sector which is a major importer of computers, hardware, and electrical machinery. Therefore, growth is hurt by a falling dollar and helped by a rising dollar.

Asset Class Returns Based on Starting Dollar Valuation

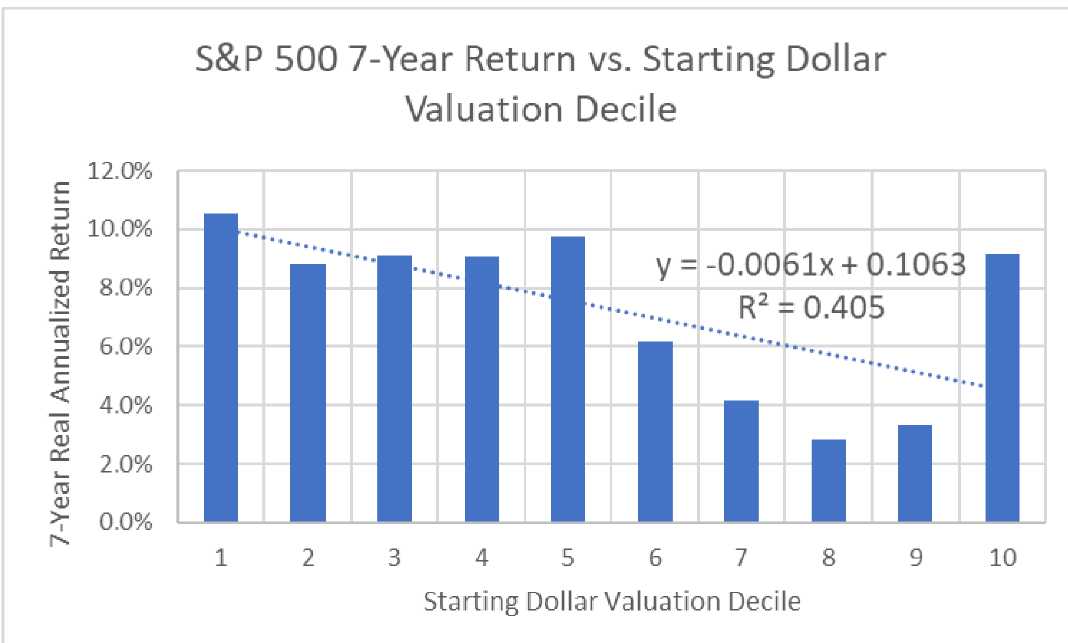
We researched a 48.5-year data set from July 1972 through January 2021 to determine if the starting value of the US dollar was correlated with the real returns of 18 different asset classes in the following years. We divided the data into 10 decile groups based on the valuation of the dollar, with decile 1 holding the 10% of the time when the dollar was the lowest, and decile 10 holding the 10% of the time when the dollar was the highest. We then calculated the annualized real geometric mean return during the following 1, 2, 3, 5, 7, and 10 years for each asset class. While the returns of several asset classes showed approximately zero correlation to the starting value of the dollar, of those that did show correlation, it usually peaked at 7 years (data not shown). Thus, we chose to focus our analysis on the 7-year time frame to compare across all asset classes. By graphing the 7-year annualized asset class return versus the starting decile of dollar valuation, we were able to see if the returns were correlated with the beginning value of the dollar. When interpreting the graphs, it is important to know that the value of the dollar is cyclical, and it experienced approximately 3 cycles during the time period studied. This means that when the dollar was at its lowest value (decile 1), it was nearly certain that it would strengthen during the next 7 years. Similarly, when the dollar was at its highest value (decile 10), it was nearly certain that it would weaken during the next 7 years.

While R^2 is technically the coefficient of determination, it effectively shows how well the asset returns are correlated with the starting level of the dollar. We consider an R^2 in the range of 0.75 to 1.0 to be a strong correlation, 0.50 to 0.74 to be a moderate correlation, 0.25 to 0.49 to be a weak correlation, and 0.0 to 0.24 to be approximately no correlation.

The slope indicates how much the asset class return changes per change in starting dollar decile. A high positive slope indicates that the asset class return increases significantly as the starting value of the dollar goes up.

As theory would predict, a low starting value of the dollar (decile 1, which is followed by a period of dollar strengthening) is good for the net importing US economy and stock market (Figure 1).

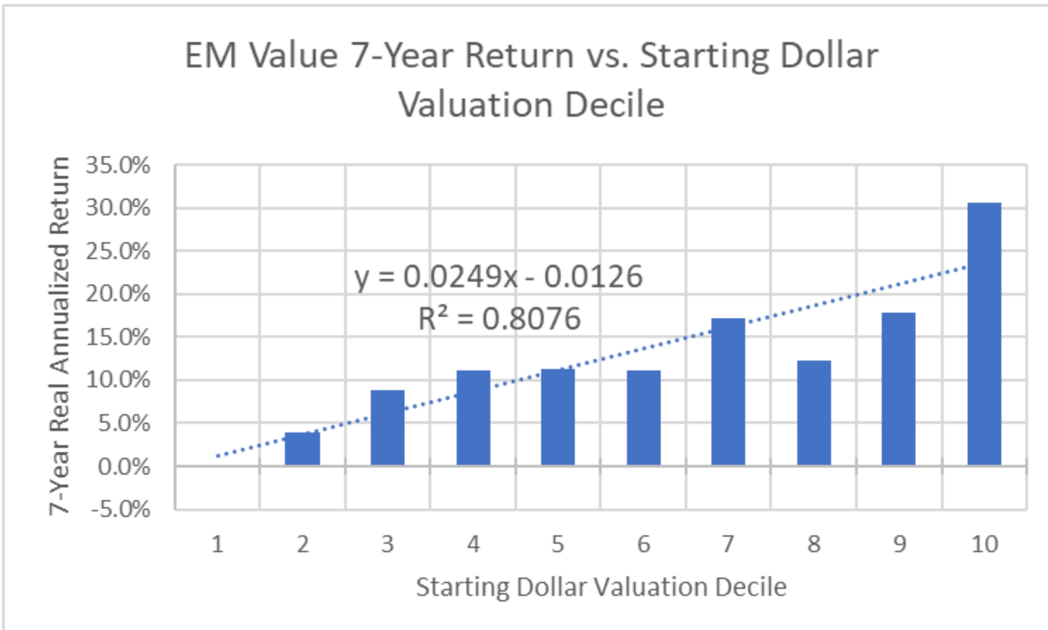
Figure 1.] S&P 500 Real Return Correlation to the US Dollar



The best fit line has an R^2 of 0.41 which shows that the returns of the S&P 500 are weakly correlated with the starting value of the dollar. The slope is -0.6% which shows that the magnitude of the relationship is relatively small with a calculated difference of only 5.5% annualized return between the lowest and highest starting level of the dollar.

At the other end of the spectrum, we found that a high starting value of the dollar (decile 10, which is followed by a period of dollar weakening) is very good for emerging market value stocks (Figure 2).

Figure 2.] Emerging Market Value Real Return Correlation to the US Dollar



With an R^2 of 0.81, we can see that the starting value of the dollar is highly predictive of the following EM value returns. The 2.5% slope shows that the response function is very steep, producing a calculated 22.4% range in annualized returns from the highest to the lowest starting level of the dollar.

For conciseness, we present the rest of the asset class data in the form of a table on the following page (Table 1).

Table 1.] 7-year Real Returns Per Starting US Dollar Valuation Decile

Asset Class	R^2	Slope	Intercept	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10
Emerging Market Value	0.81	2.5%	-1.3%	1.2%	3.7%	6.2%	8.7%	11.2%	13.7%	16.2%	18.7%	21.2%	23.6%
Gold Mining Sector	0.75	2.1%	-9.0%	-6.9%	-4.8%	-2.7%	-0.5%	1.6%	3.7%	5.9%	8.0%	10.1%	12.3%
International Value	0.78	1.9%	-0.9%	1.0%	2.9%	4.7%	6.6%	8.5%	10.4%	12.3%	14.1%	16.0%	17.9%
Long Value/Short Growth	0.72	1.4%	-1.4%	0.0%	1.4%	2.8%	4.2%	5.6%	7.0%	8.4%	9.8%	11.2%	12.6%
Copper (Metal)	0.84	1.2%	-6.8%	-5.6%	-4.4%	-3.2%	-2.0%	-0.8%	0.4%	1.6%	2.8%	3.9%	5.1%
Agricultural Sector	0.65	1.0%	1.3%	2.3%	3.4%	4.4%	5.5%	6.5%	7.5%	8.6%	9.6%	10.7%	11.7%
Energy Sector	0.44	0.6%	4.7%	5.3%	6.0%	6.6%	7.2%	7.9%	8.5%	9.1%	9.7%	10.4%	11.0%
US Momentum	0.22	0.6%	12.1%	12.7%	13.3%	13.9%	14.5%	15.1%	15.7%	16.3%	16.8%	17.4%	18.0%
US Value	0.56	0.5%	10.9%	11.4%	11.9%	12.4%	12.9%	13.4%	13.9%	14.5%	15.0%	15.5%	16.0%
Gold (Metal)	0.26	0.5%	-1.1%	-0.6%	-0.1%	0.4%	0.9%	1.4%	1.9%	2.4%	3.0%	3.5%	4.0%
Counter Cyclicals	0.12	0.4%	10.3%	10.7%	11.1%	11.5%	11.9%	12.3%	12.7%	13.1%	13.5%	13.9%	14.3%
US Aggregate Bond	0.04	0.1%	3.1%	3.2%	3.3%	3.4%	3.6%	3.7%	3.8%	3.9%	4.0%	4.1%	4.2%
10-Year Treasurys	0.01	0.1%	3.7%	3.7%	3.8%	3.8%	3.9%	3.9%	4.0%	4.0%	4.1%	4.1%	4.2%
30-Year Treasurys	0.10	-0.3%	7.5%	7.2%	6.9%	6.6%	6.4%	6.1%	5.8%	5.5%	5.2%	5.0%	4.7%
High Yield Bonds	0.75	-0.3%	5.5%	5.2%	4.9%	4.5%	4.2%	3.8%	3.5%	3.2%	2.8%	2.5%	2.1%
US GARP	0.32	-0.4%	13.1%	12.6%	12.2%	11.7%	11.3%	10.9%	10.4%	10.0%	9.5%	9.1%	8.7%
S&P 500	0.41	-0.6%	10.6%	10.0%	9.4%	8.8%	8.2%	7.6%	7.0%	6.4%	5.8%	5.1%	4.5%
US Growth	0.49	-0.9%	12.2%	11.3%	10.5%	9.6%	8.7%	7.8%	6.9%	6.0%	5.1%	4.2%	3.3%

The decile 8 column is framed because, as of Q2, 2023, the current level of the dollar is in decile 8.

From an asset allocation perspective, we are looking for assets that have both a high R^2 and a steep positive slope to indicate that there is a good chance that their future returns will be significantly higher than normal due to the currently elevated level of the dollar. Emerging market value, international value, the gold mining sector, and US long value/short growth stand out as clear winners. At the opposite end of the spectrum, the S&P 500 and US growth are likely to underperform when the dollar is as high as it currently is.

Looking Forward

Since bottoming in March of 2008, the dollar strengthened for 14.5 years until it hit its most recent peak in September, 2022. The dollar has had 3 major cycles in the last 50 years, and this has been the longest strengthening leg so far. While it is notoriously difficult to predict when a cycle has sustainably shifted from appreciation to depreciation, it seems reasonable to guess that last September may have marked the top for two reasons: 1) the dollar reached the 9th decile of strength, only slightly lower than the previous dollar peaks in 1985 and 2002; and 2) the appreciation phase has been significantly longer than previous ones. That said, if the dollar does rise to new highs, it seems very likely that we are much closer to the top of this cycle than the bottom, which means the next long term move in the dollar should be towards weakening.

For the remainder of this year, the high likelihood of a recession tempers our enthusiasm for economically sensitive assets that benefit from a declining dollar. When we overlay this dollar research with the results we found in our 2022 Q4 letter, Asset Class Response Function to Yield Curve Inversion, we find that the current high level of the dollar does predict, with moderate to high correlation, an above average 7-year return for two (gold mining sector and long value/short growth) of the four asset classes that tend to do particularly well in the 18 months after a yield curve inversion (which officially occurred last September and has deepened in the 6 months since then). When two completely independent ways of analyzing data point to the same conclusion, we should have higher confidence in that conclusion. Thus, we are especially encouraged to overweight the gold mining sector and a long value/short growth investment strategy.

Conclusion

A diversified portfolio holds all major asset classes at all times, but when history suggests that certain assets are poised for above average return, it is reasonable to overweight them. At this time, the high level of the dollar encourages us to increase our exposure to assets that will benefit from a declining dollar. Taking into account the strongly inverted yield curve, we find that the gold mining sector and long value/short growth are particularly attractive. After the threat of recession has passed, we look forward to significantly overweighting the economically sensitive beneficiaries of a weakening dollar: emerging market value, international value, US value, and natural resource stocks.

Best,

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