WHAT'S NEXT FOR KING DOLLAR?

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Summary and Major Conclusions:

The influence of a strong dollar on the domestic equity market is twofold. In principle, a high and rising dollar is a negative for company profit margins and earnings growth. However, there is powerful positive offsetting factor: History reveals a very strong positive correlation between changes in the dollar and changes in equity market price-to-earnings (P/E) ratios. The specific dollar-related factors explaining this valuation effect include lower interest rates and inflation along with increased global demand for dollar-denominated assets.

- The economic impact of foreign exchange market trends is neither well understood nor fully appreciated. Movements in the dollar have important implications for economic growth, inflation, interest rates, and the direction of world financial markets.

- The US dollar (USD) is currently near an all-time high, as measured by the Federal Reserve's dollar index. The current level of 130 recently surpassed the previous all-time high in 2002. The USD has appreciated by 12% over the past 18 months and by nearly 30% over the past five years.

- The USD is a countercyclical currency, meaning that it tends to strengthen during periods of economic distress and weakens during periods of economic strength. The USD is perceived as a classic safe-haven risk-off asset.

- In principle, domestic consumers benefit from USD strength while domestic producers are disadvantaged. Specifically, consumers benefit from low inflation and low interest rates, each of which enhances purchasing power.

- A strong dollar reduces the level of reported sales and earnings for US multinational companies because of currency translation effects. US manufacturers are at greatest risk to a strong dollar.

- A strong dollar hurts domestic manufacturers because of reduced competitiveness, as their exports become more expensive in international product markets. Domestic producers are also impacted as the cost of foreign goods entering the US declines along with a rising USD.

- The persistent strength of the US dollar in recent years has been a contractionary force for the global financial system and economy. A reversal in the USD — and a sustained period of dollar depreciation — would have an expansionary impact on the world economy, most notably for the eurozone and emerging Asia.

- A strong USD has the effect of reducing dollar-based liquidity worldwide, resulting in a further tightening in global financial conditions. Emerging market economies are most dependent upon dollar-denominated debt markets and suffer disproportionately from the effective rise in dollar-denominated debt.

- Following a 10% appreciation over the past 12 months, the USD appears overbought and overvalued. Using models of purchasing power parity (PPP), the dollar is more than 10% overvalued at current levels.

- A sustained period of USD weakness would be a major positive for the world economy. USD strength would act as an expansionary force for global liquidity and for world trade. USD depreciation would also spark a revival in risk-taking, thereby providing support for risk assets such as global equities and low-quality bonds.
- All else equal, USD strength is deflationary and exerts downward pressure on global interest rates. Market prices of government bonds generally rise during periods of pronounced dollar strength, causing market yields to fall.
- In principle, a high and rising dollar is a negative for company margins and earnings growth. Conversely, history reveals a very strong positive correlation between changes in the dollar and changes in equity market price-to-earnings (P/E) ratios.
- Changes in the dollar affect equity market sectors differently. A strong USD is most beneficial for defensive sectors, including consumer staples, business services, real estate, and utilities. Conversely, economically sensitive sectors — industrials, materials, financials, and transports — are most vulnerable to a rising dollar.
- Further rapid appreciation in the USD could culminate in a world recession. The most worrisome scenario would be a self-reinforcing vicious cycle whereby weakness in the world economy results in a rising dollar, which in turn exerts downward pressure on aggregate spending and output, followed by further dollar strength.
- The most likely scenario for the dollar is a reversal in direction triggered by an eventual recovery in the world economy, which would set in motion a virtuous cycle. The USD would likely weaken in response to an improved outlook for world economic growth, resulting in an easing in global financial conditions.

One of the most consistent macroeconomic trends in recent years has been the steadily rising value of the US dollar. The impact of foreign exchange market trends on the world economy and financial markets is neither widely understood nor fully appreciated. It is critical for investors to understand that movements in the dollar have important ramifications for economic growth, inflation, interest rates, and the direction of world financial markets. This week's *Economic Perspective* addresses key questions regarding the outlook for the dollar and implications for the world economy and financial markets.

COULD YOU SUMMARIZE THE PERFORMANCE OF THE US DOLLAR OVER THE PAST YEAR?

The US dollar (USD) is currently at a multi-decade high, as measured by the Federal Reserve's broad trade-weighted dollar index. Weightings in the Fed's index are determined by the relative size of exports and imports with trading partners. The current level of 130 recently surpassed the previous high in 2002 (see chart 1).

Chart 1: US Dollar Rises to Multi-Decade High
US Trade-Weighted Broad Dollar Index
Source: Federal Reserve

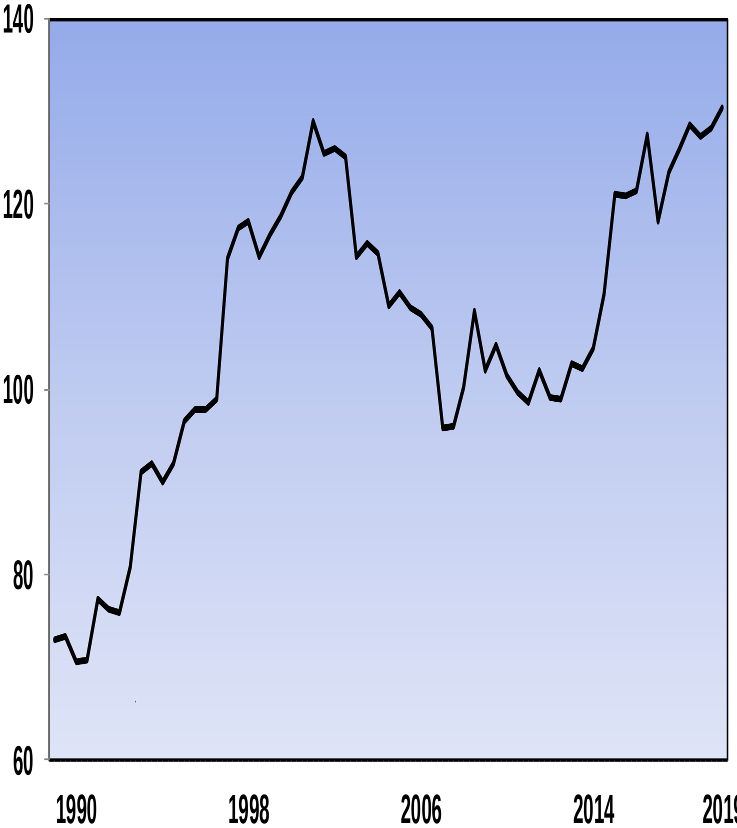


Chart 2: Euro Remains Under Downward Pressure
Euro/US Dollar Exchange Rate
The Price of One Euro in US Dollars
Source: Bloomberg

The USD has appreciated by 10% over the past 12 months and by nearly 30% over the past five years. The cumulative gain in the USD has been 36% since the eurozone debt crisis in 2011. Over the past 18 months, the USD has performed best against the euro (+12%), the British pound (+16%), and the South Korean won (+13%) (see chart 2).

WHAT EXPLAINS THE CONSISTENT STRENGTH IN THE DOLLAR?

The USD is a ***countercyclical currency***, meaning that it performs best during periods of economic weakness and heightened risk-aversion and performs worst during periods of healthy economic growth and rising confidence. International capital flows into dollar assets are strongest during periods of investor anxiety. As such, the USD is a classic safe-haven risk-off asset, and has benefitted from growing fears of a world recession (see chart 3).

Other more specific fundamental factors affecting the USD pertain to monetary policy and relative interest rates. In theory, a relatively expansionary monetary policy should result in a weaker USD. Similarly, ***interest rate differentials*** between the US and other countries can drive currency values in the short term. Much higher interest rates in the US relative to the rest of world have encouraged capital flows into dollar assets, thereby pushing up the value of the dollar.

Chart 3: US Dollar in a Strong Uptrend Since Early 2018
US Trade-Weighted Broad Dollar Index
Source: Federal Reserve

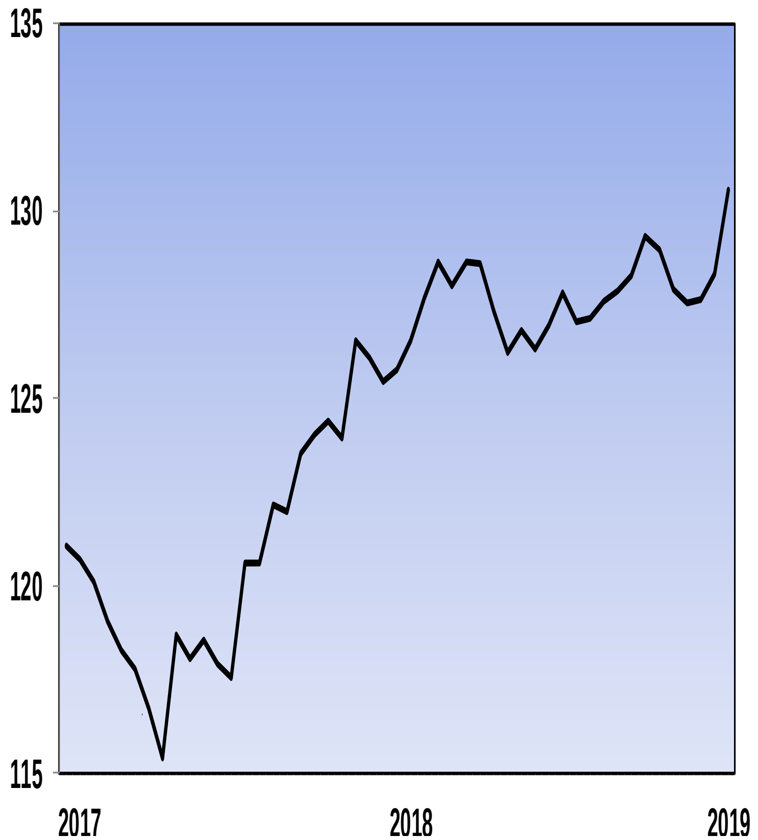
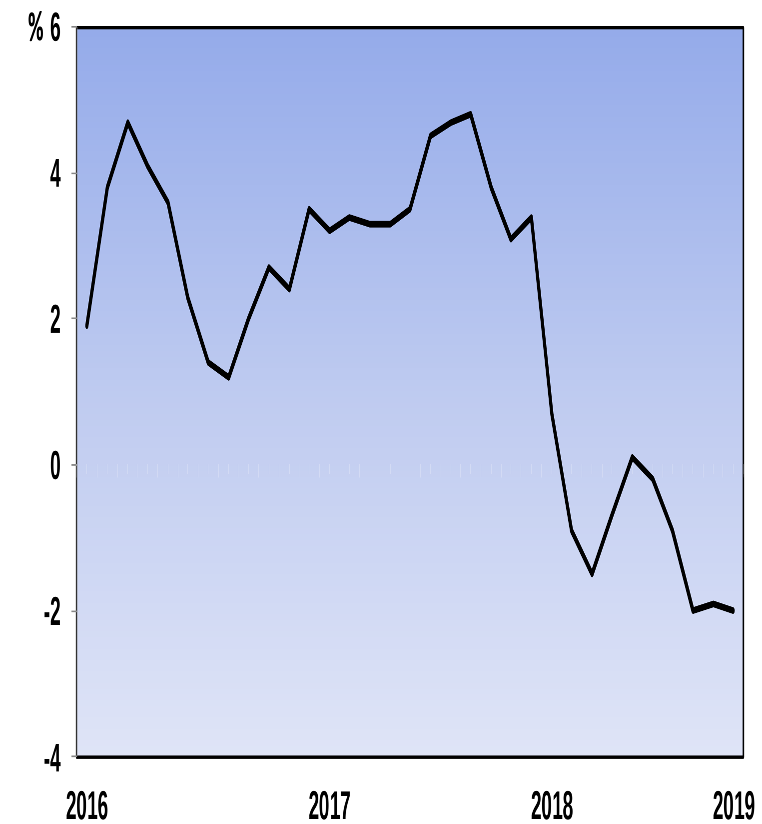


Chart 4: Prices of US Imported Goods Falling at a 2% Annual Rate
Price Index for US Imports, Annual % Rate
Source: Bureau of Labor Statistics



HOW DOES THE DIRECTION OF THE DOLLAR IMPACT THE US ECONOMY?

There are both significant economic positives and negatives relating to the strength of the dollar. As a generalization, *US consumers benefit from USD strength while domestic producers are disadvantaged*. Specifically, consumers benefit from low inflation and low borrowing costs, each of which enhances ***purchasing power***.

Conversely, dollar strength reduces the level of sales and earnings for US multinational companies because of ***currency translation effects***. This simply means that in a rising USD environment, consolidated sales and earnings are marked lower when translated back into dollars. US manufacturers are at greatest risk to a strong dollar.

Finally, *a rising dollar is a powerful deflationary force, with a lag time of one year*. The transmission mechanism is the resulting decline in the cost of imported goods, which gradually permeates domestic product markets. The average cost of imported goods is declining at a 2% annual rate. The strength of the dollar over the past year should exert downward pressure on domestic inflation over the next year (see chart 4).

COULD YOU ELABORATE ON THE IMPACT OF A STRONG DOLLAR ON THE DOMESTIC MANUFACTURERING SECTOR?

Domestic manufacturers are disadvantaged by a strong dollar in two respects. First, US exporters suffer a decline in ***competitiveness***, as their exports become more expensive in international product markets. Second, domestic producers are also impacted as the cost of foreign goods entering the US declines along with a rising USD. The partial offset of a strong dollar for US manufacturers is an accompanying decline in the effective cost of imports of raw materials, intermediate goods, and components.

WHY IS A STRONG DOLLAR UNFAVORABLE FOR WORLD ECONOMIC GROWTH?

The persistent strength of the US dollar in recent years has been a contractionary force for the global financial system and economy. A reversal in the USD — and a sustained period of dollar depreciation — would have an expansionary impact on the world economy, most notably for the eurozone and emerging Asia.

The USD is the preeminent world reserve currency and the foundation of the global financial system. More than $12 trillion of foreign currency debt is issued in dollars, while roughly $800 trillion worth of transactions per year are denominated in dollars. As such, a strengthening dollar has a *tightening effect on US and global financial conditions*.

A strong USD and rising dollar-denominated interest rates also have the effect of reducing dollar-based liquidity worldwide, resulting in a further tightening of global financial conditions. Emerging market economies are most dependent upon dollar-denominated debt markets and suffer disproportionately during periods of USD strength, as the effective cost of US dollar debt increases.

WHAT IS THE OUTLOOK FOR THE US DOLLAR?

Following a 30% appreciation over the past 18 months, the USD appears overvalued and overbought. Econometric models used to estimate purchasing power parity (PPP) suggest that the dollar is more than 10% overvalued at current levels. A sustained recovery in the world economy would trigger a reversal in the USD. As a countercyclical currency, the USD is in greatest demand during periods of economic weakness and heightened uncertainty, and tends to weaken as world economic conditions improve and a risk-on mentality emerges.

A sustained period of USD weakness would be a major positive for the world economy. USD strength would be an expansionary force for global liquidity and for world GDP growth. USD depreciation would spark a revival in risk-taking, thereby providing support for risk assets such as global equities and low-quality bonds.

WHAT ARE THE INVESTMENT IMPLICATIONS ASSOCIATED WITH THE US DOLLAR OUTLOOK?

A strong dollar results in a tightening in global liquidity and financial conditions, causing world economic growth to weaken. All else equal, spreading economic weakness caused by a strong USD exerts downward pressure on interest rates and inflation. *A strong dollar also constitutes a negative force for domestic corporate profits, especially for US multinationals*. Pulling it all together, a period of USD strength generally favors fixed-income assets versus common stocks. Conversely, a declining dollar is generally consistent with weakness in US fixed-income markets.

HOW DOES THE US DOLLAR AFFECT THE US EQUITY MARKET?

The influence of a strong dollar on the domestic equity market is twofold. In principle, a high and rising dollar is a negative for company profit margins and earnings growth. However, there is a powerful offsetting factor: *History reveals a very strong positive correlation between changes in the dollar and changes in equity market price-to-earnings (P/E) ratios*. The specific dollar-related factors explaining this valuation effect include lower interest rates and inflation along with increased global demand for dollar-denominated assets.

The most useful conclusions regarding the dollar and the equity market involve the varying impact on individual economic sectors. A strong dollar is most beneficial for domestically oriented firms such as consumer staples, business and consumer services, real estate, and utilities. Conversely, economically sensitive sectors — industrials, materials, financials, and transports — are most vulnerable to a rising dollar.

DOES A STRONG DOLLAR POSE A SERIOUS RISK TO THE WORLD ECONOMY?

Yes, continued strength in the USD could culminate in a world recession. The most worrisome scenario would be a ***self-reinforcing vicious circle*** involving the dollar and world liquidity: Weakness in the world economy will continue to reinforce the flight to safety among investors, a process which includes accumulation of US dollars.

The resulting appreciation in the value of the dollar reinforces a tightening in world liquidity conditions, thereby exerting further downward pressure on the world economy, which adds further upward pressure to the dollar, and so on. This ***negative feedback loop*** could persist for a considerable period — exerting progressive downward pressure on growth — until policymakers are forced to intervene with powerful stimulus measures.

While this disaster scenario cannot be ruled out, *<u>the more likely outcome is that an ultimate recovery in the world economy will be the necessary spark for a sustained reversal in the dollar</u>*. Most importantly, a world economic recovery would be facilitated by a negotiated trade settlement between China and the US. Global financial and liquidity conditions would benefit from dollar weakness, providing progressively stronger stimulus for world economic growth. However, until the trade conflict is resolved, the dollar should remain strong.

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Bloomberg Barclays U.S. Treasury Inflation-Protected Securities (TIPS) Index: Measures the performance of rules based, market value-weighted inflation protected securities issued by the U.S. Treasury. It is a subset of the Global Inflation-Linked Index (Series-L).

CBOE Volatility Index: An index of implied equity market volatility, reflecting the market estimate of future volatility for the S&P 500 Stock Index over the next 30 days, using options.

MSCI Emerging Market Index: An index of equity market performance for developing markets, primarily in Asia, Latin America, and Eastern Europe. The index tracks both large-cap and small-cap stocks and is weighted by market capitalization.

MSCI World Ex US Index: Measures the performance of the large and mid cap segments of world, excluding US equity securities. It is free float-adjusted market-capitalization weighted.

Russell 2000 Small-Cap Index: Is an index measuring the performance of approximately 2,000 small-cap companies within the United States.

S&P 500® Index: Measures the performance of 500 widely held stocks in US equity market. Standard and Poor's chooses member companies for the index based on market size, liquidity and industry group representation. Included are the stocks of industrial, financial, utility, and transportation companies. Since mid 1989, this composition has been more flexible and the number of issues in each sector has varied. It is market capitalization-weighted.

State Street Investor Confidence Index: measures investor confidence or risk appetite quantitively by compiling actual buying and selling patterns of institutional investors.

US Trade-Weighted Dollar Index: An index that measures the value of the US dollar in relationship with other currencies, statistically weighted on the basis of importance to the US as trading partners.

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