CEDAR RIVER CAPITAL LLC

Paul C Latta, CFA
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Myths & Misconceptions about the US Dollar

Prosperity is measured in US dollars. Not just for Americans, but for nearly every country in the world. The almighty dollar is the world reserve currency. America has enjoyed the privilege and the burden of this vaunted status for over 70 years.

To most Americans, the status of the US dollar is taken for granted, like the air we breathe. Yet there are many unseen winds within the global currency markets, winds that gradually bend the landscape to their presence, scattering seeds in new directions, and bringing changes in the weather for better or worse. The effects are far reaching, creating winners and losers in seemingly unrelated areas such as geopolitical disputes, alternative energy, social security, medical research, and even in Presidential elections.

Currency movements have broad ranging ramifications for the future of the financial and non-financial world as we know it, yet at the same time are profoundly misunderstood. Americans in particular are surprisingly uninformed, a likely side effect of having a comparatively healthy home currency and a world reserve currency that is difficult to benchmark against other smaller currencies. Indeed it is a common observation that some of the sharpest minds in the currency world come from countries with problematic currencies, evidently a recipe for quickly moving up the learning curve.

This report is a compilation of Top Myths and Misconceptions about the US Dollar, a compilation that aims to educate our friends and fellow American readers. As a prelude though, the report begins with clearing up the misconceptions of currency in general by providing some basic definitions and historical context, which is then followed with some thoughts on how currency movements ripple through the world touching our lives in unexpected ways.

Clearing up the Misconceptions of Currency

- Definition, Evolution and Function -

What is a currency? Throughout history, money has taken on many forms including seashells, furs, metal coins, paper notes, and more recently electronic ledgers. Some of the more curious examples include the stone disc money of the Salomon Islands in Micronesia where the larger stones were worth more than smaller stones and some of the larger denominations weighed over 8000 pounds. Or the knife money of the ancient Zhou Dynasty in China, knives of varying shapes and sizes with inscriptions to determine value. Potato mashers were a currency of ancient Cameroon. Regardless of the form, money has three primary functions: a medium of exchange, a unit of account, and a store of value.

Any asset that retains its purchasing power over time can be regarded as a store of value. Currency is generally regarded as a superior store of value because of its liquidity, but other assets like commodities or property can also act as stores of value. Some stores of value are better than others at retaining their purchasing power over time: Commodity pricing can be quite volatile, and real estate pricing is usually more stable but very illiquid, especially in times of need.

While a currency has the benefit of liquidity, it is also subject to inflation - an Achilles Heel. As prices inflate, the currency deflates and vice versa. So a 10% inflation rate roughly correlates with a 10% decline in the currency. Alas though, a currency-induced price move does not move all prices in lockstep. Indeed the interplay between currencies and product prices is not well understood and is at the heart of most of the myths and misconceptions about the US dollar.

From Metal to Fiat in 200 Years. The US Dollar has undergone quite an evolution since the 1776 founding of our country. The original "Continental" Dollar – a paper dollar issued by the Continental Congress at the start of the war - depreciated quite rapidly and was effectively worthless by 1780, partly due to a massive counterfeiting campaign on the part of the British. A coinage system was not established until 1792. The metal backing – typically alloys of silver and gold - provided more stability to the new currency. Indeed gold and silver coins from other countries were also legal tender in the US through the mid-1800s. Payment with other assets was also common using tobacco or beaver pelts as currency.

Continental Dollar. 1776

The US dollar retained its bimetallic metal backing through 1864 when convertibility was suspended, a 15 year hiatus mainly related to the Civil War and its aftereffects. The German move to the gold standard in 1873 – a side effect of the Franco Prussian war and sizeable gold-based indemnity revenue – had a cascade effect on its key trading partners, leading most countries in Europe and the Americas including the US, to abandon silver and bimetallism. In essence no country wanted to be the dumping ground for other countries' excess silver when it became evident that silver as a monetary asset was being abandoned around the world. The US generally stayed on the gold standard until the failure of the Bretton Woods currency system in 1973, aside from a period of non-convertibility in 1933 related to the Great Depression. Since 1973, America and most of the developed world has been on a fiat system, a system with fully floating exchange rates and no asset backing.

This is where things get interesting. In currencies throughout history, the word fiat had been an undesirable four letter word associated with sharp devaluations or capital flight, frequently resulting from being on the wrong side of a war or natural disaster. Indeed prior to the 1973 failure of Bretton Woods, America had only three periods with an unbacked fiat currency – The Revolutionary War, The Civil War and the Great Depression. Currencies that are asset backed rarely collapse. But most currencies that do collapse are collapsing not because of the fiat status, but because of war or calamity and related untenable budget and trade imbalances and money printing. So fearing fiat currencies is an irrational fear, akin to fearing hospitals for creating sick people.

The Bretton Woods currency system was established in 1945 as a fixed exchange rate against the US dollar for countries in reconstruction. The US dollar was then pegged to the price of gold, effectively replacing the British Pound as pre-WWII world reserve currency with the US dollar as the new post-WWII world reserve currency. The system worked well initially but as Europe increasingly prospered under the Marshall Plan, imbalances and dependencies became more frequent. A devaluation of the British Pound in the late 1960s created a run on the bank for US gold. The pressure on the US dollar eventually broke the pegs in the fixed rate regime. At some level, the 1973 breaking of Bretton Woods should not be a surprise. A system of rigidly fixed currencies really only works as long as all countries in the system have nearly identical economic performance - especially regarding inflation rates and interest rates - clearly an unrealistic expectation over the long term.

The initial intent was to temporarily float the US dollar, then re-peg as a new Bretton Woods II equilibrium was achieved. But as time wore on, the self-correcting nature of multiple fiat currencies seemed to open the door to a new way of thinking about currencies and so Bretton Woods II never came to pass. Gold was increasingly seen as an unnecessary and inflexible intermediary between exchange rates of multiple countries. And with increasingly modern telecommunications and computers, there was no need to use gold as the way to communicate over time and distance the value of a foreign or domestic currency. The gold standard was obsolete. Gradually countries around the world dropped the gold standard, with the last country to drop the gold standard being Switzerland in the year 2000.

While the collapse of Bretton Woods pushed the role of gold and other precious metals to the back burner, it did not change the fact that the US dollar was still the currency upon which all other currencies were measured. And even today, the US Dollar is still the world reserve currency 72 years after Bretton Woods made it official.

The US Dollar - King of the Currency World. There are pros and cons to being the world reserve currency. The most commonly cited advantage is that of seigniorage revenue. For a fiat currency, seigniorage is the benefit of being able to issue new currency which to non-residents amounts to essentially an interest free loan (non-residents hold a little over half of the US currency in circulation). McKinsey estimates US seigniorage revenue at about $40 - $60 billion per year, a nice boost for the US but well less than 1% of US GDP of $17 trillion.

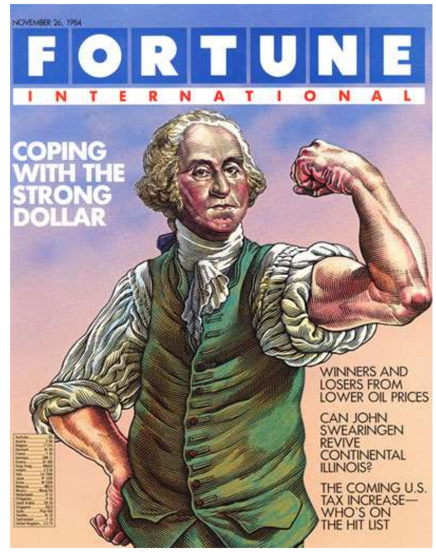
Perhaps the biggest advantage to being the world reserve currency is simply the feeling of safety, especially in contrast to smaller currencies in emerging markets. Many smaller emerging market currencies are persistently faced with exchange rate volatility or worse - devaluations and capital flight – and frequently in the face of perfectly sound economic and monetary policies. Just a few years ago, a cup of coffee in Zimbabwe was costing consumers billions of Zimbabwe dollars, a devaluation unlikely to occur with the global presence of the US dollar. The US dollar is the bluest of the blue chip currencies, with more stability, more depth and more breadth – privileges Americans may not see and may take for granted.

Lastly, the US dollar has earned the confidence of international investors, and there is some degree of associated national pride and prestige. And with international investors, there is size-begets-size effect as large foreign reserve managers seek out US dollar reserves for the sizeable liquidity needs and then protect those reserves and competitive exchange rates with continued buying and/or not selling. So the US dollar will likely remain the dominant world reserve currency for many years to come barring the extremes of war, depression or Act of God.

There are also negatives associated with being the world reserve currency. At the top of the list is the Triffin Dilemma. That is, to produce the liquidity the world needs, the country with the world reserve currency must run a trade deficit. While there is academic debate here given the many moving parts in international trade, since Robert Triffin first described this tension in 1960, America has run persistent trade deficits (and Triffin has his own Wikipedia entry). Additionally, reserve currency status drives demand for financial assets generating pressure for currency appreciation, pressuring currency sensitive industries like manufacturing and raw materials and benefiting consumer and technology industries. This currency-skewed playing field has been altering the fabric of American business for many years.

Raw Materials Sensitive, Finished Goods Insensitive. This brings us back to the beginning of the discussion which alluded to the misunderstood interplay between currencies and prices. In theory, if a currency drops 10%, prices would increase by roughly 10% across the board all else equal. On average this is roughly true over time. But there is a sizeable skew in pricing movements in particular across the value chain. That is, a small currency decline may push raw material prices ahead by 50% - 100%, yet the finished goods prices barely budge.

Clearly there are more than a handful of informed economists who understand not only how the global capital flows ripple through pricing but also understand how the changes can make or break industries, make or break politicians, or make or break the American way. The connection between currency and pricing has been addressed by various Presidential advisors and a handful of academics (e.g Harvard's Jeffry Frieden) that characterize highly tradable commodities like wheat and oil as currency sensitive. In contrast, non-tradable commodities (e.g. building materials) and non-commodities (e.g. autos, cell phones) are currency-insensitive. But the knowledge just does not seem to spread far. And when a currency-induced commodity move is big enough, books seem to rise to the top of the business best seller lists with interesting but misguided supply/demand explanations such as the Hubberts Peak oil shortage or strong demand due to the China Miracle. Currency best sellers are really hard to find.



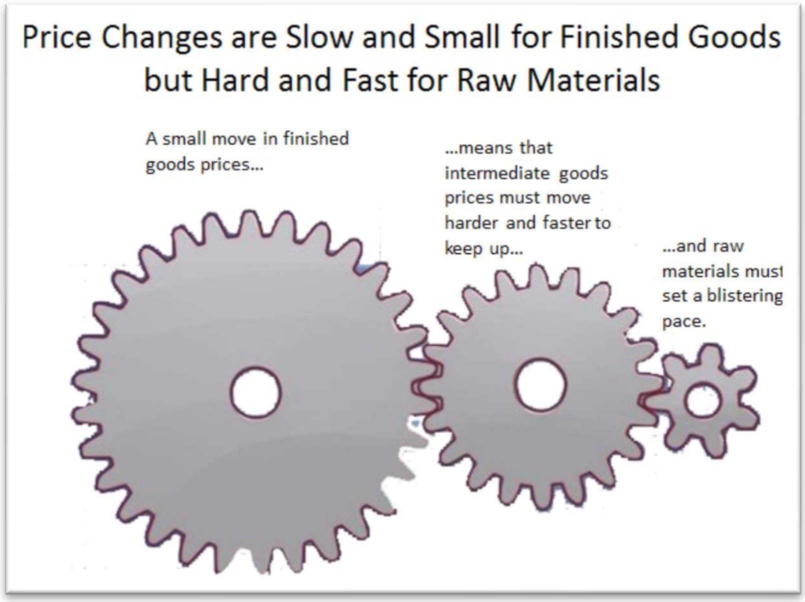
An amusing vintage issue of Fortune Magazine from November 26, 1984 leads with the headline, "Coping with the Strong Dollar" a headline that is immediately followed by another seemingly unrelated headline, "Winners and Losers from Lower Oil Prices". Yet within the two articles - which are breathtaking in depth by comparison to today's increasingly shallow click-bait journalism – there was no mention at all about the connection between the strong dollar and low oil prices. None. And for the next 30 years, that would be the standard for mainstream reporters everywhere.

Fortunately starting with the sharp rise in the US dollar in 2014, the financial media, seemingly for the first time, connected the dots and now ties most oil price movements to the US dollar, a veritable watershed change in reporting. The discovery was likely a happy accident since the connection was made by a rare reporting emphasis on the strong currency (the dollar) rather than the weak currency (the euro), a surprising violation of the old media rule of "if it bleeds it leads". Perhaps the sea change in reporting was simply giving poor Europe a break after the over-reporting in the previous two years on problems with Cypress and potentially kicking Greece out of the European Union. Regardless, today the financial media clearly acknowledges the correlation between the US dollar and oil. That said, there is little discussion or understanding the causality. Further, there is rarely a connection made between the US dollar and many of the non-oil commodities such as base metals and agricultural commodities.

There are two explanations for the causality of why raw materials are more currency sensitive than finished goods. The first explanation – an academic explanation - is that *commodities are "stores of value" and are acting as competing currencies when the US dollar is under pressure*. There is clearly merit to the store of value idea as the currency market is much larger than the commodity market, explaining why small currency moves make for large commodity moves. The idea also offers at least some insight into why perishable commodities like milk or eggs are less sensitive to the US dollar than easily storable commodities like precious metals. (There are two additional explanations here: Agricultural commodities have much lower fixed costs for processing/refining, an important factor. And many of the perishable commodities, proteins more so than grains, are not traded across international borders as much, making them less currency sensitive).

The second explanation – a factory floor observation - is that for most "widget" plants, assuming some level of economic or market efficiency that will quickly eliminate outsized profits, *the widget plant profitability does not change as long as the dollar change in raw materials matches the dollar change in finished goods. But since raw materials are cheaper than finished goods, an equal dollar price increase implies a larger percentage move for the raw material compared to the finished good.*

This explanation might be called "Don't Rile-up the Plant Manager". If finished goods pricing is not keeping up with raw materials pricing, heads will roll in the sales department. And if raw materials pricing getting ahead of finished goods pricing, heads will roll in the purchasing department. Replicate this behavior across scads of widget plants, their suppliers, their customers and their competitors and the behavior across value chains around the world become clear – raw materials will always be more volatile than finished goods. One can then envision the value chain as a simple mechanical gear train where the price structure in the value chain is comprised of large slow-moving finished goods prices which are connected to smaller and faster intermediate good prices which in turn are connected to even smaller but still faster raw materials prices.



While little is written about this factory floor explanation, the explanation is functional regardless if the price change was initiated at the plant's raw material end or the finished good end and regardless of whether the price change was up or down. Further, the model correctly predicts that a higher fixed cost nature industry has a higher the "gearing ratio", and hence more pricing sensitivity as one moves upstream in the value chain (yet another explanation why oil and metals will be more dollar sensitive than grains and cattle).

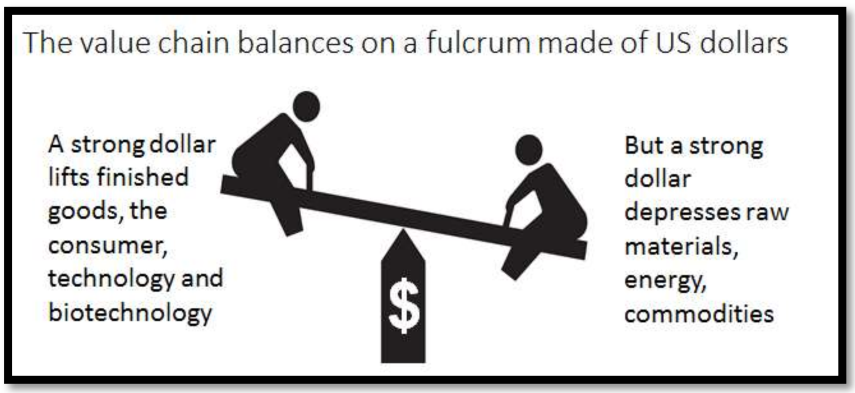
While subtle price changes happen every day in response to perturbations in supply and demand, what really sets the pricing gears in motion is a sizeable move in the US dollar - such an event impacts pricing across the entire basket of goods, with the raw material commodity prices seeing the biggest moves. Notably, a move in the US dollar impacts widget plants all over the world, not just in the US. Local currency moves also run through the gear train but the moves are usually pinned in by raw material prices, prices that are traded at single world market clearing prices based largely on the US dollar.

So in summary there are two reasons why raw materials are more sensitive to currency movements than finished goods 1) Raw materials are "stores of value" that can act as competing forms of currency and hence will be disproportionately strong when the currency is weak and vice versa and 2) Factory level profit margins will not see abnormal outsized gains or losses as long as dollar changes in raw material prices equilibrate with dollar changes finished goods prices, but since raw materials are cheaper than finished goods the percent move in raw materials will always be greater than that in finished goods.

With this background in the sensitivity of the movements in the value chain, there are clear ramifications for the economic performance of the various sectors within the global economy as currency movements generate unseen headwinds and tailwinds for businesses everywhere.

The Economic Seesaw of the US Dollar: When the US dollar strengthens or weakens, there are clearly winners and losers. The ripple effects go beyond simple pricing at the raw materials and/or finished goods levels. Entire sectors within the overall world economy will see fortunes rise or fall depending on the direction of the US dollar. Those sectors that do best in a strong dollar world have a tendency to be on the consumer end of the value chain and with predominantly US based revenues.

Today's strong dollar economy is a tailwind for consumer and technology names including the likes of Amazon, Starbucks and Facebook. These companies are paying less for materials at the same time the consumers have more money in their pockets to spend on themselves instead of at the gas pump. Drug companies like Johnson & Johnson which derive the majority of profit from the US (partly thanks to high drug prices in the US) also benefit. But it is a headwind for Chevron, US Steel, International Paper and other commodity raw materials companies. Not all sectors of the economy are directly impacted. Some sectors like banking and insurance will track the exposure of their customer base, an indirect impact. Very few sectors are completely untouched (though perhaps a case could be made that regulated utilities are not exposed since many regulators allow pass through mechanisms). And so the world economy finds itself on a seesaw which tilts to up or down depending on dollar strength or weakness.



Notably, the tilt of the US dollar seesaw also ripples through to non-US economies. So it should not be a surprise that resource dependent economies do poorly when the US dollar is strong. Further, the pure raw materials economies like oil-based Venezuela will do worse than mid-stream manufacturing economies like China. And those economies with better developed consumer markets will do well with a strong US dollar - the US in particular of course but also to a lesser extent most of Europe.

The seesaw analogy correctly suggests that the movements of the US dollar are cyclical. However, the cycle has quirks. Notably the cycle is a very lengthy cycle due to self-reinforcing factors and can often last 10-15 years. Yet when events transpire that shift the direction of the US dollar- typically economic shocks overseas and/or military developments - the seesaw can move quickly in the opposite direction.

The Big Six Myths about the US Dollar

A casual google search will show an immense amount of confusion and misinformation about the US Dollar and its role in the world. So collected below is a list of a dozen commonly held myths about the US Dollar. The list is split evenly into two categories: the high priority A-List of The Bix Six Myths, followed by a condensed summary of The Next Six additional yet important myths. The first myth begins somewhere over the rainbow…

Myth #1

The Wonderful Wizard of Oz is Just a Children's Story

We will never know for certain whether Frank Baum's famous 1899 story, "The Wonderful Wizard of Oz", was just a simple children's story or a very clever political allegory of the 1896 Presidential election and parable of the Populist movement. Pedigreed academics have come down on both sides of the debate with many elaborate publications in erudite journals. But the parallels are stunning and quite educational for those with an interest in the US dollar and monetary policy. And Baum is a whale of a good story teller.

As a monetary allegory, the core of the story is the debate between the gold-only standard and a bimetallic gold and silver standard. The gold standard is represented by the yellow brick road. Silver is represented by Dorothy's silver slippers, slippers that were unfortunately changed to ruby slippers for visual effect in the full Technicolor movie. The characters in the book represented various stakeholders relevant to the monetary debate.

- Dorothy represented the solid and wholesome American everyman/woman
- The Scarecrow is the Midwest farmer, seemingly brainless after years of hardship and ridicule.
- The Tin Woodman is the industrial worker, a dehumanized laborer reduced to a machine with no heart
- The Cowardly Lion is William Jennings Bryan, the Democratic nominee for President, one of the greatest orators in American history. Voice of a lion on silver though soft on the war with Spain
- The Wicked Witch of the East was Wall Street and eastern financial-industrial complexes including their Munchkin workers all in favor of the gold standard
- The Wicked Witch of the West was the challenging forces of nature especially in the American west – drought, tornados, insects and uncivilized indians (winged monkeys)
- The Good Witches of the North and the South were combined into one witch in the movie, but the North and especially the South were strong supporters of populism and the return of silver

One of the allegory's more powerful representations was the Wizard of Oz himself - the President of the United States - ensconced in the Emerald City (Washington DC) behind much smoke and mirrors. When Toto pulls back the curtain revealing the Wizard's deceit and puffery, the Wizard admits he is just an ordinary man, powerless to help in their plight. Such an image of a figurehead President arises repeatedly even outside the context of monetary debates (and there will be more on this clever and surprisingly enlightened image of a peace time President in subsequent myths below).

While the debate over the monetary standard raged in 1896, it is important to note that Dorothy's three companions were all heavily grouped on one end of the value chain seesaw – the farmer, the industrial metal worker and William Jennings Bryan were all clear beneficiaries of a weak dollar. And even Dorothy herself, while supposedly an American everyman, came from the state of Kansas, a state with a weak dollar agrarian economy. A more balanced group might have included a character from a consumer constituency - perhaps a Sears Roebuck & Company salesman, or from a technology constituency – perhaps an aspiring inventor working at Thomas Edison & Company.

But the story clearly was about the trials and tribulations of the beleaguered weak dollar constituency. Notably, a move to include silver in the monetary base, a metal in decline, would effectively amount to a devaluation of the US dollar. Indeed with country after country following the US, France and Germany by using a gold-only standard, the effect was creating an increasingly powerful and strong currency and pushing the seesaw down hard for raw material prices. Countries like Russia, Mexico and India that were the last hold outs of a pure silver standard saw their seesaws tilted in the opposite direction with comparatively happy and healthy farmers and industrial workers.

In the US, after having put up with weak raw materials prices for years during the transition from the depressed and unbacked Civil War "Greenback" fiat dollar to the 1879 move to the gold standard, the weak dollar constituency was certainly more than a little fatigued by the 1896 election. It was in this environment that William Jennings Bryan rose to the podium with his explosive oratory – the voice of a lion, a voice that still echoes today, "You shall not press down upon the brow of labor this crown of thorns; you shall not crucify mankind on a cross of gold".

While the silver/ruby slippers do return Dorothy home in the book, in the real world Bryan lost the election to McKinley in 1896 and again in 1900 and the bimetallic and silver standard arguments fell by the wayside with international standards increasingly fixed on gold and its yellow brick road. The battle over the gold standard versus the bimetallic or silver standard – arguably the most well-known debate in the history of exchange rate politics – came to an anticlimactic end.

There will likely never be a resolution to the debate about whether Baum wrote the Wizard of Oz as a simple children's story or a sophisticated Populist parable, but nearly all agree about the pedagogical power of the story. That is, once you hear of the allegorical implications – intended or not – it is near impossible to ever think of the gold standard, the silver standard or bimetallism without hearing a hundred Munchkins in your head singing "Follow the Yellow Brick Road". So it is a myth that The Wonderful Wizard of Oz is just a children's story. Today it is more, regardless of Baum's original intent.

Myth #2

OPEC Controls the Price of Oil

OPEC made its presence known in a very high profile way with the oil embargo of 1973, a five month embargo against the US and all supporters of Israel during the Arab-Israeli war. Oil prices seemingly skyrocketed overnight, with the price of crude oil tripling within a year. Yet just six years earlier, a near identical three month OPEC embargo during Israel's Six Day war had essentially no effect.

What was different? The key difference was the second embargo took place a mere six months after the collapse of the Bretton Woods fixed currency regime. The newly freely floating US dollar, unshackled from the gold standard, began the next chapter of monetary history by devaluing, an outcome that was not ideal though not unexpected. But as with any falling currency, the inflation genie was now let out of the bottle. So America was vulnerable to perceived supply shortages that might push prices higher aggravating the inflation.

Nixon's cognoscente of economic advisors was clearly aware of the devaluation/inflation scenario when moving to a floating or fiat-based system and set up premeditated safeguards such as wage and price controls one to two years in advance. But the OPEC embargo hit America when it was at its most vulnerable, a lucky strike if you will. OPEC defenders do point out that long term contractual oil supply agreements are challenging to meet when you are being paid in a devaluing currency. So higher oil prices were in fact necessary to offset the deteriorating dollar. This is true, though only a partial giveback relative to the immense and outsized oil revenue gains.

Media coverage of the first oil shock focused heavily on OPEC with little mention of the move to a fiat currency. OPEC was a perfect made-for-TV scapegoat led by a seemingly despotic, theocratic, Muslim king with very deep pockets. There was widespread finger pointing at the Middle East for the oil shock, finger pointing that was led by politicians, media, business leaders, and the many munchkin followers. But with a devaluing currency, shortages were not limited to oil. America was experiencing shortages and price inflation in nearly all energy commodities, *plus* precious metals, base metals, and agricultural commodities.

National Emblem of the Kingdom of Saudi Arabia

And so we circle back to our earlier discussion about the value chain gear train and seesaw. When the US dollar devalues say 10%, the price of a diversified basket of goods will rise perhaps 10%, but with small geared raw materials rising maybe 50% and large gear finished goods barely budging. And the seesaw hits bottom for consumers while lifting skywards for producers. Crude oil behaves like any other raw material with profound sensitivity to the US dollar. Indeed, the value of the US dollar is the single most important determinant to the price of oil, far trumping supply/demand. OPEC may control 81% of global oil reserves, but if there is no weakness in the US dollar, OPEC is a toothless tiger.

OPEC was persistently in the headlines throughout the 1970s, though subsequent oil shocks were mainly due to Middle East instability such as the Iranian Revolution and various hostage crises and not additional OPEC embargos. One small but interesting footnote was the US dollar devaluation in the 1985 Plaza Accord, an agreement intended to make US automakers more competitive with the Japanese in the wake of the Chrysler bankruptcy. The Plaza Accord devaluation should have tripled oil prices or worse, but coincidently, Saudi Arabia was in the headlines for going after OPEC "cheaters" who presumably were causing weak oil prices in the previous several years (and yes, the US dollar was rallying in the early 1980s – the actual cause). Saudi broke with the OPEC cartel and cranked the oil spigot wide open and oil prices - instead of rallying with the 1985 weak dollar - went nowhere. Of course other raw materials rallied – copper, gold, corn, steel – but not oil. It is not clear if Saudi Arabia's cognoscente had a discussion with Reagan's cognoscente, but the behavior and timing raises questions and made it appear as if a higher order plan was taking place.

In more recent years, the oil price sensitivity to the US dollar played out quite predictably in 2014. Recall Russia invaded the Ukraine and seized Crimea, a bit of a shock to the world so shortly after the winter Olympics in nearby Sochi. NATO was quick to put sanctions on Russia. Yet Russia is essentially the gas station of Europe and is a very important supplier during cold German winters as the provider of natural gas and other heating fuels. NATO sanctions would not last the winter without a plan.

The chess move came from the European Central Bank (ECB). European politicians were already worried about the euro being a tad overvalued on most measures, in particular against the Japanese yen which was being jawboned down by the Bank of Japan to address ongoing economic malaise. More importantly by dropping the euro, the dollar strengthens. And the stronger dollar in theory drops the price of oil which then makes Russia strongly motivated to sell their oil and gas to keep their budgets balanced and specifically more inclined to sell heating fuels to Germany in the cold of winter.

Within six weeks of the Crimea invasion, Mario Draghi head of the ECB, announced the euro was too overvalued to be competitive and that the ECB would lower rates not only below the low level of US rates but for the first time to a level below zero, a very bold and unprecedented move. While Draghi said nothing about the oil prices or Russia, the timing of the announcement at one of the very first ECB meetings after the NATO sanctions and the unprecedented boldness of the move of going to negative rates seems to speak for itself that there was more to the story than trying to trump the move of the Bank of Japan.

Like clockwork, the euro started a steep decline, losing nearly 30% of its value in the next six months. And most of the euro outflows became inflows into the perceived safety of the US dollar, which rallied 14% in less than a year, highs not seen since the dot com era of the late 1990s. The strengthening dollar put deflationary pressure across the basket of goods, but as usual with little impact on finished goods and a profound negative impact on raw materials prices like oil, steel, copper, wheat and others. The value chain seesaw dropped hard for global producers but lifted global consumers skywards.

Within a year, the price of oil collapsed by 60%. And Russia's government budget surpluses quickly turned to deficits. Russia may have chafed at the NATO sanctions and really wanted to turn the European thermostat to zero in the winter by not shipping the European Union any fuel, but now Russia was desperate for any revenue and shutting the spigot off to Europe was just no longer an option. So it seems Draghi's chess move was a perfect checkmate.

The monetary explanation for the oil price move in 2014 has skeptics. The skeptics point to three areas in particular.

- Some skeptics have suggested the price collapse was related to new drilling technology, in particular hydraulic fracturing or fracking. Certainly the extra supply from the new technology has been weighing on prices. But fracking has been growing steadily every year for the last decade and is more explanatory of a persistent pricing weakness rather than the sudden price weakness experienced in 2014.
- On a related note, some have suggested that OPEC/Saudi proactively caused the 2014 oil collapse as a way to penalize frackers and maintain its market share, a throwback to the activity of the Plaza Accord. But actual production figures show small single digit changes, hardly the drama of the Plaza Accord situation.
- And lastly, some have suggested that a slowdown in China was reducing oil demand growth which weighed on oil prices, an assertion that seems a bit of a stretch given Chinese oil consumption growth was 3.7% in 2014, a figure that was not that much slower than the 4.9% experienced the prior year.

The monetary skeptics are grasping at straws here. The 2014 oil collapse was about the strong US dollar - not fracking, not OPEC/Saudi market share ambitions and not so-called softness in China.

In the latter part of 2016, oil prices started to mount a small rally in anticipation of a December OPEC meeting, a meeting that was in the financial headlines for months beforehand. Yet, the US dollar was raging strong on higher rates related to expected economic growth and/or inflationary fears from newly elected President Trump's $1 trillion infrastructure plan. Needless to say, the OPEC meeting amounted to nothing amid a strong US dollar. This is hardly the first time speculation around OPEC has proven fruitless. OPEC has had only one successful embargo in its 43 year history. But the OPEC myth persists and just won't die.

Fortunately, the media has clearly caught on to the tie between the US dollar and price of oil. So the OPEC myth has been given a sharp upper cut to the jaw and it is reeling but it is still standing.

Myth #3

"Fireman" Alan Greenspan Caused the Dot Com Bubble

It is hard to deny the transformational impact of the internet, a transformation at nearly every level of society. But during periods of great change, it can be difficult to envision precisely what the future may hold. In 1996, then Fed Chairman Alan Greenspan was particularly sensitive to these facts when he raised the question, wondering out loud if elevated stock prices at the time were fair or instead were experiencing "irrational exuberance". Needless to say irrational exuberance was indeed present and it continued to grow at a fantastic pace up until the bubble burst beginning in early 2000.

There are books written about the stock market bubble of the late 1990s and there is an extensive list of theoretical causes, the most commonly cited being simple bull market mania driven by the excitement over the transformational impact of the internet combined with overly loose Fed policy. The perceived loose Fed policy transformed the meaning of Greenspan's "Fireman" nickname, originally a term of endearment earned in the wake of the successful rescue efforts during S&L crisis of the late 1980s. But a nickname that transformed in meaning into that of an arsonist after the bursting of the dot com bubble. Of course there were more than just two factors behind the dot com bubble. More serious works look in more depth at the regulatory environment on Wall Street in particular, and the interplay between investments, investment managers and investment banks.

There is virtually nothing written about the role of the US dollar, a seemingly innocent bystander. Yet a deeper look shows that in fact the sector movements within the US stock market tracked exactly where global capital flows would head in a currency environment marked by the Asian currency crisis, the Russian bond default, the uncertainty around the introduction of the euro, and a raging strong US dollar which was being sought out mainly as a haven of safety. But the innocent bystander appearance of the US dollar is just that – an appearance. In reality, the US dollar was right at the heart of the stock market bubble of the late 1990s.

The US dollar in the late 1990s was the strongest it had been since the move to a fiat system in 1973. The value chain seesaw rose so hard and high to the consumer end of the value chain that the raw materials industry dropped into crisis. Oil dropped over 60% to just over $10 per barrel, an incredible collapse and a post-Bretton Woods low. Central banks started to unload their gold reserves dropping gold prices nearly 40%, also to a post-Bretton Woods low. Similar stories abounded across the entire commodity complex - corn, wheat, coal, copper, steel, silver and others. The dot com culture of the day disregarded the dollar and simply explained the crisis in commodities as an expected result from "yesterday's industries". Needless to say, the collapse in raw material prices simply put more money into consumer pockets and raised consumer confidence to record levels.

The consumer end of the value chain of course was in its glory and the investment banks cranked out new issue after new issue of consumer internet companies like Pets.com, Etoys, Homegrocer and others as investor demand seemed infinite. Internet infrastructure companies like Akamai, F5 Networks, and Internap also participated including the “four horsemen” of tech – Microsoft, Intel, Oracle and Cisco.

While the bubble in strong dollar names was focused on internet names, there were sizeable moves in pure strong dollar consumer plays like Krispy Kreme donuts that had no technology connection at all. Further, there were sizeable moves in the biotechnology industry led by Celera Genomics and host of related companies participating in a parallel human genome bubble. (While the connection between biotech and the currency is not quite as strong as it is for consumer technology, it is still there owing to the fact that the bulk of global drug industry profits come from the US, courtesy of high US drug prices).

It was a cookie cutter strong dollar world in the late 1990s. The strong dollar sectors of the economy were skyrocketing including companies in the consumer, technology and biotechnology sectors. Yet the weak dollar sectors of energy and raw materials were getting clobbered. Even dollar neutral sectors like finance bifurcated into two subgroups with those serving strong dollar customers bases outperforming those with weak dollar customer bases.

This does raise the question, how did Alan Greenspan and a so-called easy money policy create the stock market bubble? After all, the strengthening dollar in the late 1990s was not really due to great things happening in the US, but rather it was due to crummy things happening outside the US and the draw to the safe haven status of the US dollar – devaluations throughout Asia, defaults in Russia and the tenuous introduction of the brand new euro.

Further, a loose money policy is hardly the type of policy to draw money to the US dollar. Indeed, the collapse of the Thai baht in July 1997 – the domino that started the Asian currency crisis – was driven by a large Thai current account deficit and fears about the inability to finance that deficit. If a finger were to be pointed at the Fed it would be the tightening of monetary policy in 1994 and 1995 that then held steady throughout the late 1990s made it difficult for countries like Thailand running large current account deficits to be able to finance those deficits and hence subject to speculative attacks. Admittedly this is a bit of a stretch given the Thai Baht was mostly fine for a full two years after the 1995 Fed tightening before collapsing in 1997. So the collapse is more about Thailand falling under the weight of its own trade deficit and perhaps less about the US or the Fed - the tight money theory is not perfect.

But a loose money theory has even bigger challenges, in particular a tunnel vision view of the bubble being a US-only phenomenon and not subject to much larger global capital flows. A move to a tighter monetary policy would clearly have aggravated the currency crises overseas, which of course would have strengthened the dollar further and driven more investors away from oil and into dot coms. The loose money theory, while intuitively understandable given the speed of GDP growth, is hard to reconcile with the skew of dot coms rallying and oil collapsing.

Perhaps a middle ground way to view monetary policy in the late 1990s was to acknowledge the overall GDP and stock market growth as signs of monetary policy being too loose but the dramatic skew in outperformance of strong dollar industries being the sign of monetary policy being too tight. And while the skew problem seemed to originate overseas with currencies in Asia and Europe, the result was putting Alan Greenspan in a bind with no correct answer for monetary policy. Monetary policy can get complicated with the domestic mandate of price stability being subject to much non-domestic interference.

In is interesting that the collapse in the dot com bubble in 2000-2001 did not coincide with a reversal of the strong US dollar. Perhaps this was another reminder of that the stock market and the economy are not one and the same. The value chain seesaw was still firmly favoring strong dollar consumer, tech and biotech industries, but the flood of interest in these industries in the late 1990s pushed share supply in excess of demand. And so a sizeable correction was born, a dot com bust. In the aftermath of the collapse of the stock market bubble, investors were repelled for some time by dot com stocks or stocks in general.

But with the US dollar, the next seesaw move happened in 2002-2004 with the US invasion of Iraq, adding a geopolitical risk premium onto a vulnerable and over-valued dollar. The near 30% drop in the value of the trade weighted US dollar propelled the weak dollar industries with relative outperformance not seen since the weak dollar days of the 1970s: In with investments in energy, raw materials and emerging markets. Out with investments in consumer, technology, biotechnology and developed markets. The seesaw landed hard on the weak dollar side where it stayed for a little over 10 years – excluding a flight to safety period during the 2008-2009 recession – and did not lift back to the strong dollar side until the Russian invasion of Crimea and euro devaluation discussed above.

Myth #4

Medical Advances are paced by Scientific Advances

One interesting side effect of the decade-long seesaw movements between weak and strong dollar industries over the last 50 years is the impact on medical research. Medical research has a strong tie to the stock market - over half the funding for medical research in the US comes from biotechnology, medical device and pharmaceutical companies. Yet many of these companies are dependent on Wall Street funding to move trials forward, funding that may not occur without the tailwind of a strong US dollar. And so an apparently non-cyclical medical drug and device industry has a very cyclical tie to the currency markets.

For many new drug candidates in clinical trials, the lowest cost of capital for this research comes from wealthy investors and institutions who want to believe they are investing in the cure for cancer and not from the industry insiders at the multinational pharmaceutical companies who know how deeply the odds are stacked against them. There is a 91% failure rate of a drug getting through all three phases of human clinical trials needed for an FDA approval, and the cost of getting through clinical trials now averages a staggering $2.6 billion per drug (Tufts CSDD study, 2016). Of course, for the small handful of medical breakthroughs that make it through to approval, the rewards are fantastic, as they should be.

In the late 1990s, the dot com bubble and "irrational exuberance" spread beyond pure technology to adjacent sectors. The biotechnology sector also had its currency-induced day in the sun with a parallel late 1990s bubble in human genome stocks. While the currency tie to biotech is not quite as strong as the tie to consumer names, the bulk of revenue is US-derived and the profits even more so, thanks to elevated drug prices in the US vis a vis other countries, a fact that has been with us for decades. Further, in the dot com days when stories mattered more than valuation, biotech cure-for-cancer stories were magnetic. And since most biotechs have no revenue as they commonly must wait years for clinical data and FDA approvals, the valuation metrics are hard to pin down creating a very wide band of perceived fair value, a fact that benefits the stocks handsomely and disproportionately during strong dollar bull markets but can be quite punitive in weak dollar bear markets. So biotech is a strong dollar sector.

The strong-dollar human genome bubble of the late 1990s stock market was accompanied by a powerful deal placement market – initial public offerings, follow-on offerings and mergers & acquisitions. In the parlance of the investment banking industry, the capital markets "window" was open and since the biotech bankers do not understand the currency markets and what makes the window stay open (and more importantly, nor do they care), there was a rush to get deals done. This did lead to a brain drain of scientists escaping the profitable but oppressive bureaucracies of big pharma and taking their shot at glory at young upstart biotech companies funded not by profits but by Wall Street's easy money.

There were many successful deal placements, though in all fairness, there were more than a handful of deals that were long shots even for the higher risk biotech sector and probably would not have seen funding at all were it not for the dot com and human genome bubble. Needless to say, the lack of scrupulousness led to a worse than average set of clinical outcomes in subsequent years. And with the huge Iraq war-induced 2002-2004 seesaw swing from strong dollar industries to weak dollar industries, the biotech window closed right when crummy results became persistent at a bottom up level. To quantify this, there were 78 biotech IPOs in the US in 1999 and 2000, the last two years of the human genome bubble. But in 2001 and 2002, there were a total of only nine IPOs.

This was a bad result for both big pharma and small biotech. Big pharma's eviscerated and brain drained pipeline was now stranded at unfundable and unprofitable small biotech companies. And while this did open the door to strategic alliances and acquisitions, it was difficult to get bubble-funded biotech to talk in the post-bubble world at what they perceived to be ten cents on the dollar. To add to the taint, the rebound of weak dollar industries lasted for a very long time - until the seesaw move of 2014 with Russia invading Crimea (notwithstanding the 2008-2009 recession). During the lengthy 10+ year slow patch for biotech and medical research, the most frequent explanation in the financial press was that "the science was more difficult" nowadays and "the easy discoveries had already been made", both amusing and almost laughable explanations for those who understand the seesaw. Indeed Craig Venter may have a thing or two to say about the idea that his discovery of the human genome was "easy"!

Needless to say, when the 2014 rally in the US dollar lifted the biotech sector high again, there was a huge pent-up groundswell behind biotech, this time led by advances in immuno-oncology. While not quite as sexy as the discovery of the human genome, the sector was again off to the races. In 2014 and 2015, there were an incredible 153 biotech IPOs. While there were again some less than scrupulous fundings, the opening of the capital markets window also addressed quality but capital starved programs and let the good science move forward. Wall Street had returned to the sector and more science was getting funded.

It should be mentioned of course, that while the US dollar may be a big factor determining whether an industry such as biotech is in favor or out of favor, it is not the only variable in the equation! As this paper is being written, biotech is benefiting from the strong US dollar but is also getting hurt from potential regulatory changes mainly to address drug prices that are perceived to be too high. While prices are indeed high, a necessary evil to address the $2.6 billion R&D cost for new drug candidates that have an ugly 91% failure rate in the clinical trial and FDA approval process, any change to the pricing paradigm could potentially have a disastrous impact on Wall Street's ability to continue to fund new research, a key driver of scientific advance in medicine.

So Biotech may track the strength of the US dollar as well as how the winds of politics blow, but it is still a myth that science alone paces the rate of medical breakthroughs.

<u>Myth #5</u>

The Chinese Yuan will become the World Reserve Currency

When the strong dollar of the dot com era became the weak dollar of the post-2003 Iraq War era, it seemed to take a few years for folks to catch on to what was happening. But as usual, Americans were the last to see the light. Our Canadian neighbors seemed a lot smarter, likely a result of the immediate surge of foreign direct investment into their numerous oil & gas fields and mining businesses.

Indeed over time, the investor relations pitch book for many Canadian resource companies alluded to the challenges with the weak US dollar. A death spiral of sorts was taking place where the weak dollar was lifting the price of oil, which was aggravating the US trade deficit, which was aggravating the weak dollar, and so on. Rinse and repeat. And while the US dollar was undervalued by 15% or more on most measures of purchasing power, the pressure on the US dollar remained.

Canada was not the only country to benefit from the weakness of the US dollar. Most of the emerging markets countries have resource based economies that do well in a weak dollar environment. The BRIC countries became a near household acronym expression. Brazil, Russia, India and China all experienced fantastic growth during these weak dollar days.

The China story in particular was the most transformational, with GDP per capita growth running among the top five countries in the world, an impressive accomplishment for a country with over a billion people and no population growth. Most folks attributed the China miracle to admission to the WTO, the move to a capitalist economy, the efficiency of a non-democratic government and the industriousness of the Chinese people. But there was also a currency factor that frequently gets either overlooked or is misunderstood.

Prior to 2005, the Chinese yuan (a.k.a the renmimbi) had a fixed peg against the US dollar at a rate of 8.27 yuan to the dollar, a rate that had been in place since 1997. But when the US dollar dropped nearly 30% in 2003, the yuan retained its peg, effectively making China 30% more competitive in the export market compared to its non-pegged Asian competitors – the Japanese yen, the Korean Won, the Taiwan dollar. This had the effect of pouring gasoline on the Chinese economy. GDP growth went through the roof.

The competitive advantage did not last as labor constraints eventually resulted in wage inflation, partially debasing the currency, and at about the same time China began to experiment with a limited float around the exchange rate peg marginally lifting the yuan. Ironically, as the unfair advantage for China in 2003-2004 began to subside in 2005 and 2006, US politicians belatedly entered the fray. Politicians care about perceptions not facts and to this day, there is still a perception that somehow China is cheating with an undervalued currency, an amusing and obviously anachronistic view given the strengthening of the yuan since 2014 (largely due to being banded to the strengthening US dollar).

Another interesting side effect of the China miracle was the story that China demand was the underlying cause behind the rally in oil and other commodity prices. While there is truth to the fact that certain commodities like steel did see a sizeable uptake in demand with Chinese consumption running 4x US consumption, it is important to untangle the move in steel due to China, the move in steel due to the US dollar weakness, and move in China GDP growth due to its yuan peg to the weak US dollar.

Fortunately there are parallel commodities – like kraft pulp – that are global in nature, with similar pricing patterns over the previous 25 years and seeing demand from China but are seeing overall declines in demand because of structural changes to the industry (i.e. declining use of newspapers, magazines, office paper). In other words if one assumes the price increases in steel were the same as kraft pulp plus an incremental positive for incremental global demand mainly from China, one can roughly isolate the currency move from the China demand move. What this simplified empirical analysis finds is that 88% of the move in the price of steel was due to the US dollar and 12% was due to incremental demand likely from China. While this analysis could be fine-tuned with additional multi-variate coefficients particularly on the supply side, the fact is that the currency impact on commodity prices in 2003-2007 dwarfed the China demand impact on commodity prices, a conclusion in sharp contrast to the overwhelming publicity around the so-called China miracle at the time.

Needless to say, with the misinformation about what is moving commodity prices and what is moving currencies, the Canadians and gold bug websites were more than happy to imply that the US dollar was near the end of its life, that fiat currencies never last anyway and that the Chinese yuan would soon become the world reserve currency.

But clearly most folks making that assertion were not really up to speed on what it takes to be a reserve currency nor the process required to get there. Indeed, there are five criteria on which to grade a prospective world reserve currency: 1) Size of the economy 2) Openness of the capital account 3) Flexibility of the exchange rate 4) Soundness of macroeconomic policies and 5) Depth of financial markets and regulatory/legal processes. Clearly China gets an A+ on the first criterion, size. And its gets a solid B on capital controls which have been liberalized. But it gets a D on the exchange rate, a C on macro policy and an outright F on financial, legal and regulatory measures.

Not only does China flunk on financial, legal and regulatory processes, it flagrantly eschews the notion of any system of checks and balances for the Communist Party of China (CPC). So China will never engender the feeling of safety that international investors need to use any currency at scale such as a world reserve currency. The courts remain subservient to the party. The press remains subservient to the party. And worse, the Central Bank remains subservient to the party. This is not a western constitutional democracy with full property rights and an independent central bank, nor is it a system where investors can have confidence about their fiduciary rights. America's best and brightest companies – Amazon, Facebook, Uber, Microsoft, Google and more – are persistently subject to disruptive website blockages or state sponsored hacking whenever the CPC feels it is in their interest. Many western equity investors have grown weary and frustrated and at this point simply regard China as a kleptocracy, a harsh but understandable portrayal. This message is not lost on reserve managers. When trillions of dollars (or yen, won, pounds) are at risk – perhaps during a future frightening recession like 2008-2009 - reserves managers are going to be real picky and all the self-serving baggage related to China's non-constitutional one party rule simply never will earn a passing grade. Without change at the CPC level, China will remain a bit player among global reserve currencies.

Notably, the process of moving from one world reserve currency to another is very difficult. The process will likely involve capital flight and hyperinflation as well as economic stagnation for the US. It will also likely decimate the foreign holders of US treasury securities and top on that list at present is…China. China is very aware of this risk as is Japan, Korea, Europe and other US treasury holders. It is in no one's interest to rock the boat. This is what Cornell economist Eswar Prasad refers to as The Dollar Trap, the web of interdependencies between the US and foreign holders of US treasury securities. The self-reinforcing behavior perpetuates the standard of the US as world reserve currency. It is possible to break the pattern, though not likely without some form of world calamity. The British Pound did lose its status as world reserve currency despite the strong webbing of what was known beginning in 1928 as The Sterling Trap. But it took two world wars and a Great Depression to break the webbing before Bretton Woods established the US dollar as the new world reserve currency.

The IMF recently added the Chinese yuan in 2015 to the Special Drawing Rights (SDR) basket, a sign that China has joined the dollar, the euro, the yen, the pound, and the Swiss franc as a reserve currency. Not

The World Reserve Currency, just a reserve currency. This does lift the status of the yuan one notch higher. And China was able to use the SDR designation to implement further liberalization of its capital controls, a step in the right direction. There is still work to be done on the exchange rate in particular. Indeed a relaxation of the managed band on the US dollar would seem likely to alleviate criticism – mostly unfair criticism – that the yuan is intentionally being undervalued. And a freer exchange rate would allow better control over interest rates and monetary policy. So the yuan seems to be making solid improvements but still remains a three legged horse that will never be competitive in a real race.

There has been a dream for some time that the world will have a single currency. Perhaps that currency will be gold. Or bitcoin. Or SDRs. Alas though, the experience with the euro in recent months and years clearly illustrates the challenges of trying to centralize monetary authority across multiple countries with differing economic experience and agendas. The needs of Germany do not always align with the needs of Greece. If coordination across Europe is proving this difficult, coordination across the world seems unlikely to happen any time soon.

Myth #6

Politics is about Ideals (and not about money)

Mark Hanna, the republican senator from Ohio 1896-1904 once said, "There are two things that are important in politics. The first thing is money, and I can't remember what the second thing is". Mark Hanna was also McKinley's campaign manager during the 1896 election, the man most responsible for putting the allegorical Wizard of Oz in power.

We all want to believe our vote is about high-minded ideals such as free markets, free speech, or equal rights. Or about topical issues such as health care reform, immigration, or deregulation. Yet we also know that voting for the pocketbook is common, whether by explicit knowledge of the economics or by association with those that do. Perhaps utilitarianism is an ideal unto itself.

The 2016 Presidential election was a bitterly fought contest with a result that seemed to surprise many. Post hoc analysis focused on many of the developments in the last days before the election – fake news, email investigations, ties to Russia. And there have been studies segmenting voting behavior by age, race, level of education, religion and many other categories.

Yet one area that has yet to be analyzed is voting behavior by exposure to the value of the US dollar. As discussed in detail above, raw materials industries like oil, corn or steel benefit tremendously from a weak dollar. Consumer, technology and biotechnology industries benefit disproportionately from a strong US dollar. The implication is that states like Texas that are highly dependent on a weak dollar to lift oil prices may vote differently than states like California where tech-oriented silicon valley and lots of consumer industries benefit from a strong dollar. Indeed, California was very much a democrat blue state and Texas very much a republican red state.

Of course there may be other differences between Texas and California. So another way to view the dollar exposure in voting patterns is to look at the industrial bases of those states that voted disproportionately red or blue as measured by the percent spread of democrats to republicans (or vice versa). The five bluest states were Hawaii, Maryland, Rhode Island, New York and Massachusetts. The five reddest states were Utah, Wyoming, Idaho, North Dakota and Nebraska. Indeed there is an intuitive bias knowing the oil exposure of Wyoming and North Dakota (red), the tourism exposure of Hawaii (blue), the agriculture exposure of Idaho and Nebraska (red), the tech and biotech exposure of Massachusetts (blue). So at a broad level there is a hint of citizens voting for their pocketbook.

Of course, many states have economies that are well diversified across weak dollar and strong dollar industries and hence may be swing voters. And with a well-diversified state economy, the red/blue voting pattern may not elucidate the impact of the connection between weak dollar red voters and strong dollar blue voters.

One way to simplify the view is to acknowledge that weak dollar industries just do not do well in the city and strong dollar industries do not do well in rural areas. There are no coal mines in Manhattan, no corn fields in downtown Philadelphia and no oil derricks in Seattle. Weak dollar raw material industries are dirty, need space and usually end up “Not in My Backyard”. Strong dollar industries are the opposite. So, there are no medical research labs in Alaska’s Brooks Range, no destination shopping malls near Oklahoma’s Granite Wash gas field and no technology incubators at all in western Nebraska. Strong dollar industries need people to survive and cannot survive in the boondocks.

So instead of breaking down the country into red states and blue states and guessing at the industrial makeup of each state, it makes more sense to drill down another level and look at red counties versus blue counties and make the assumption that an urban county likely has a strong dollar economy and a rural economy likely has a weak dollar economy. Fortunately the University of Michigan keeps track of voting by county. The results shown below ought to raise eyebrows. America is profoundly divided between the urban blues and the rural reds.

2016 US Presidential Election – Results by county
Red = Republican Blue = Democrat

While many will rightly conclude that the difference between the urban and rural citizens go beyond money, it would be a mistake to simply ignore Senator Mark Hanna's view of the importance of money in politics. Let's face it, the post-Crimea strengthening of the US dollar that started in 2014 was a hard financial punch below the belt for nearly all of rural America, a punch specifically aimed at the Not In My Backyard raw material industries – oil, coal, corn, iron ore, wheat, etc. Yet by comparison, city folk were living *la dolce vita* - the sweet life - and mostly unaware of hard times in America's hinterlands. Indeed, many urban dwellers were actually surprised at the red state win. Yet outside the city, a red state uprising against "more of the same" was obvious and indeed imperative regardless if the currency explanation was understood or not.

Of course, over time the seesaw tilts both ways. The last non-recessionary swing was in 2003 where the sharp drop in the dollar resulted in a similarly sizeable wealth transfer but from the city to the rural areas. And sharp moves like 2014 are not common. The seesaw reverses direction about every 5-15 years but with only 44 years as a fiat currency, that is not many reversals to establish repeatability. For the near term, while there is a deep divide in the country at present, the wealth transfer is mostly behind us and a new normal is in the process of settling in for the next several years. That said, there will be more reversals in the future as economics and geopolitics constantly evolve and change.

With a new weak dollar Wizard of Oz in power as of November, there have been quite a few moves, statements and tweets that raise eyebrows. It is doubtful that Trump personally understands the sensitivity of prices across the value chain and why raw materials are so exquisitely sensitive to the currency. But like all Presidents, he does have an informed cognoscente of economic advisors who get it, should he choose to listen. And he knows that his voters almost all hail from weak dollar rural counties.

Clearly he has received the message that his voters want a weaker dollar. His initial public commentary seemed a bit unoriginal borrowing quite a bit of old out of date material such as the 1985-style speech about making American manufacturing competitive again or the 2005-style speech pointing the finger at China for being a currency manipulator or the granddaddy of old speeches of throwing tariffs on lumber and perhaps steel because of so-called foreign dumping. He has lashed out at Japan for the yen being too low. And he went to Europe to try to jawbone down the euro only to be informed by Angela Merkel that in Europe, their central bank is independent. He then threatened to leave NATO, a tacit acknowledgement that the 2014 weakening euro / strengthening dollar was geopolitically motivated and not purely economically driven.

Ironically, the dollar lifted quite powerfully right after the election. Indeed the campaign promise of some $1 trillion in infrastructure spending created inflationary fears, lifting interest rates and hence lifting the currency. Trump attributed the strong dollar, not to fears of inflation, but to his "enormous popularity". This might be news to the predominantly Asian buyers of America's treasury bonds. The post-election pop in the dollar has since subsided partly due to softening economic data in the face of the higher rates, partly due to a strengthening euro on a successful French election (soundly dispatching fears of a French exit from the European Union), and partly due to political strife associated with Trump's firing of FBI director James Comey.

While the US dollar has erased its post-election gain, the US dollar is still well above where it was prior to the Crimea invasion. To quantify this, the euro moved from 1.11 pre-election to 1.04 a month after the US election and is now back to 1.11. But at the time of the 2014 Crimea invasion, the euro was at 1.38. So the US dollar is still comparatively strong.

So it would seem Trump does not have many tools in the toolkit to financially benefit his weak dollar voters. The recent pullback in the US dollar on Trump political strife is obviously an accidental silver lining to a rather stormy development for the President. But the small breath of a weak dollar tailwind for rural voters is not enough to move the needle economically and the related impeachment threats - admittedly only from obvious political opponents - clearly jeopardize reelection prospects for 2020.

That does leave one tool in the toolkit for Donald Trump and his weak dollar voters: War. This for the record is where the Wizard of Oz fails as an allegorical figure. During peacetime, a President basically is all smoke and mirrors and has great difficulty accomplishing things with pushback from numerous opposing constituencies. But during War, the President is no longer just a Wizard of Oz figurehead, but one step away from a dictator with war powers and little need to cater to political opponents.

The last seesaw move in the US dollar was in 2003 when America went to war in Iraq and the US dollar picked up a big risk premium. This was not why George W Bush went to war in Iraq but it certainly was a giant side benefit for a red state politician from Texas. A big factor back then was the undervalued euro, still relatively new to the world, but ready with open arms to take capital flows from the weakening US dollar. Today, the euro valuation is not far off fair value of approximately 1.20 – 1.25 (using the purchasing power parity method of valuation).

Trump's military policy seems to be more assertive than Obama. But it is not clear what sort of campaign would drop the US dollar and what non-US currency might take over the inflows. The euro is not likely to see another lengthy renaissance in the next few years given challenges with Brexit. And while Frexit has a reprieve for now with the Macron Presidency, there are elections in other European countries that will again test the fabric of the European Union. The yen is not really a candidate given the international discomfort with high Japanese government debt levels. The Chinese yuan is not freely floating and is hardly a safe haven under the Communist Party controls. The Swiss franc is already too high. And the list goes on.

Most of the ongoing skirmishes – Afghanistan, Syria, North Korea - are not likely to move the US dollar lower, though an escalation could changes things quickly. In essence, any military development that makes the US dollar less of a safe haven relative to peer currencies could weigh on the dollar. Or stated another way, war can be good for the dollar or it can be bad for the dollar depending on the perceived changes in the relative safe haven status of the dollar versus other currencies. There are many scenarios that could play out, all of which are good material for future analysis.

More Myths about the US Dollar – The Next Six

The myths in the preceding pages seem to capture the biggest areas for confusion around the US dollar and the breadth of the ripple effects. But the list is hardly exhaustive since currency effects run through hundreds of industries, hundreds of countries and billions of people. So below is a small and condensed summary of six additional yet important myths about the US dollar. Needless to say, myths #7 through #12 below still do not exhaust the supply of dollar related myths. There are more.

Myth #7 - Protectionism will help the Trade Deficit:

President Trump's America First strategy has a clear protectionist element. And at the margin, there may be small victories in specific industries. But this approach misses the mark. The real driver for today's trade deficit is the US dollar – not in the conventional sense of competitive devaluation, but in the sense of the value chain seesaw. The academic view is that a lower currency will be associated with a J-curve where the trade balance will initially widen with devaluation as the shock of the new currency regime ripples through the supply chain, but the trade balance will then narrow significantly as the more competitively priced products find more international demand. For those of us awaiting the J-curve rebound after the sizeable dollar decline of 2002-2004, it just never happened. Instead what happened was the trade deficit simply tracked the price of oil – America's biggest import - and the price of oil tracked opposite the US dollar. So the old rule of lowering the value of the dollar to improve the trade deficit completely reversed: Instead, raise the value of the dollar to crush oil prices and wipe out the trade deficit. There is a moving target element to this strategy given new US oil supplies due to fracturing may alter the trade deficit sensitivity to the US dollar in the future. And if the import mix in the future shifts from say raw material oil to finished goods cell phones, perhaps we will return to dollar weakening to address the trade deficit. But for now, a strong dollar is good for the trade deficit.

Myth #8 – The Military will defend its Currency: The tie between any military and its currency is rarely positive and can be quite toxic at its worst. This is especially true in wars of conquest – internal or external – where a government as we know it may cease to exist. To be fair, the military has more important objectives than watching the currency. But currency becomes a very poor store of value when the very existence of its issuing country is in doubt. In this scenario, citizens will flock to currency alternatives, typically commodities, as stores of value. This usually means hyperinflation and goods shortages for all belligerents, not just the losers in a war. Dorothy's raw material end of the seesaw rises to the sky and the consumer end drops to the ground hard. The exposure to this phenomenon over the years has an impact on military culture, a culture that seems to appreciate when a country is "blessed with abundant raw material resources". Yet the military culture has little exposure to a healthy economy when the currency is functioning properly and the resources become the textbook drag known as "Resource Curse". The commodity-based military thinking nails the seesaw to the ground for strong currency consumer industries and risks moving the country toward a constrained medieval mindset where wealth is accumulated by sword.

Myth #9 - Value investors do well by buying below intrinsic value: At a broad level, it is hard to argue against this philosophy, a philosophy espoused by none other than Warren Buffett. But in practice, there is a tendency for value investors to buy “cheap” stocks without much regard for catalysts and even less regard for the currency and the value chain seesaw. And in a world where the US dollar is the world reserve currency, the cheap stocks have a tendency to bunch up on one end of the seesaw along with Dorothy and her weak dollar crew. The weak dollar Value crew did quite well when the dollar weakened in 2003-2004, a real hurricane of a tailwind. But the hurricane turned into a headwind in 2014 when the dollar strengthened. This does not mean Growth investors – who focus more on catalysts and less on valuation – will fare much better. The fact is that most growth stocks bunch up on the opposite end of the value chain seesaw. So the experience for growth investors was the mirror image of value investors with 2003-2004 being terrible and 2014 being terrific. *A better approach clearly is to ignore the growth versus value distinction and simply understand how global capital winds carry through world markets and put up the right sails and rigging for the weather that is coming.*

Myth #10 - American Consumerism is solely a Cultural Bias: A side effect of the having the world reserve currency is the desire for other countries to build their own reserves of US dollar assets. There are a couple follow on effects from this behavior. First is the tendency for the US to run a trade deficit. And second is the tendency for the sought after US dollar to run slightly overvalued relative to other currencies over the very long run (30-50 years, and with occasional wide variations). The currency bias moves the seesaw in favor of consumer oriented industries and pushes manufacturing overseas to countries with more competitive currencies. And the prevalence of US industries that succeed based on consumer impressions creates a self-reinforcing pattern of consumptive behavior. American consumerism then really starts as an economic bias based on the currency which then flows through to a consumer culture.

Myth #11 - Environmental groups are not impacted by the US dollar: Weak dollar raw material industries like coal, steel, oil and others have a tendency to be regarded as polluting industries and are usually located in rural Not in my Backyard locations, far from the stereotypical New York City environmentalists. And when these industries are economically healthy there is incremental spending on capital improvements, including environmental spending. Also the recycling streams, even in urban areas, are raw materials like any other and profoundly benefit from dollar weakness. So garbage haulers like Waste Management that create these recycling streams from their collections are on the same weak dollar end of the seesaw. Of course, not all segments of the environmental industry are dollar sensitive. The utilities come to mind here. Still as a whole there is a weak dollar bias to the environmental industry, a seeming conundrum given the preponderance of urban environmentalists. The answer to the conundrum lies in the legal and adversarial structure of the industry where business development frequently means suing the hand that feeds. In that sense, the environmental industry finds more cultural sympathy with strong dollar urban dwellers, most of whom have a different yet still adversarial relationship with the raw materials industries based on residing on the other side of the seesaw.

Myth #12 - To be a Billionaire, Build a better Mousetrap: There is no formula for becoming a billionaire. But a 1999 issue of Fortune Magazine listing the 400 richest Americans observed that nearly two thirds of their list made their wealth in the tech industry. Yet 20 years earlier - in the 1979 Fortune 400 list of the wealthiest Americans - nearly two thirds of the list made their riches in the oil & gas industry. And so it seems becoming a billionaire is more about being in the right industry on the correct side of the seesaw and at the right time when the seesaw is lifting that industry skywards. And of course building a better mousetrap.

The US Dollar - An Economic Butterfly

Sometimes small local events can have profound global ramifications. On June 28, 1914, a Bosnian Serb named Gavrilo Princip shot and killed the heir to the Austrian throne, Archduke Franz Ferdinand, when Ferdinand's motorcade took a wrong turn driving through Sarajevo. Within a month the political backlash combined with tight global military alliances led to the start of World War 1, a war that cost over 16 million lives and resulted in the collapse of four empires – the Austro-Hungarian empire, the German empire, the Ottoman empire and the Russian empire.

In chaos theory this type of sensitivity to initial conditions with a wide variance of possible outcomes is known rather poetically as "The Butterfly Effect". Meteorologists have struggled with this problem for years building models to track weather around the world. The term was coined decades ago by mathematician and meteorologist Edward Lorenz when he used it in a 1972 paper titled, "Does the Flap of a Butterfly's Wings in Brazil set off a Tornado in Texas?" Complex systems have many components, components that interact with each other in a variety of predictable and unpredictable ways.

The currency markets are another example of a complex system where small changes can lead to a wide spectrum of outcomes, not just at an economic level, but more broadly at a social level, at a scientific level, at a political level and more. Being the world reserve currency, the US dollar is at the top of the list for understanding the world's complex and vitally important system of currencies. Today, nearly every country in the world today has a stake in the US dollar. An understanding of the US dollar matters.