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AN EXAMINATION OF THE LONG TERM CONSEQUENCES OF A WEAK CURRENCY

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ABSTRACT

Most currency debates focus solely on the short term consequences of a strong or weak currency. The commonly held belief that a strong currency is good for citizens in the short run because of their increased buying power on a global scale, and that a strong currency is bad for businesses because it promotes an environment that makes expansion more difficult may hold true. However, this thesis sets out to prove that there are many long term consequences to weak currencies that can have greater and longer lasting effects on a nation's economy than the short run positives a weak currency provides for domestic citizens. In a period of weak currency, businesses can be left exposed to foreign takeover, domestic citizens may not support businesses because they have a decreased buying power, and industries that play a large role in the economies of countries across the globe such as food, durable goods, homeownership, and motor vehicles are more susceptible to currency fluctuations and take a longer time to recover from changes in consumption patterns. Furthermore, this thesis examines the role that real appreciation plays in currency exchange rates between countries and examines whether or not Americans are actually traveling to foreign countries at a more affordable price when the US Dollar is stronger than other currencies.

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Chapter 1

Introduction

Most foreign exchange debates focus solely on the short run consequences of a strong or weak currency. It is commonly believed that a strong currency is good for citizens because of the many advantages it provides them in the short run such as increasing their buying power on a global scale. For example, if the dollar was stronger than the euro, Americans are led to believe they are traveling abroad on a discount or that European goods now cost less to them. Inversely, it is commonly believed that a strong currency is bad for businesses because it promotes an environment that makes expansion more difficult. When a country's currency is weak in comparison with the rest of the world, it is commonly believed that the decreased buying power is bad for consumers, but that a weak currency is advantageous to businesses because multinational companies who do a lot of their business abroad often see a rise in global sales.

It may be true in mainstream theory that in the short run a strong currency is good for consumers because it increases their buying power and bad for businesses because it weakens export competition. In addition it may also be true that a weak currency is bad for consumers because it decreases their buying power, and good for business because it promotes an environment where business expansion is more feasible. However, there are long run consequences that are frequently overlooked such as a weak currency leaving businesses exposed to foreign takeover, domestic citizens not supporting businesses because they have a decreased buying power, and the implications these situations have on specific industries that are more susceptible and take a longer time to recover from changes in consumption patterns such as the

food, durable goods, homeownership, and motor vehicle industries. These overlooked long term consequences can have a greater and longer lasting affect than the short run positives. This thesis sets out to provide evidence that the frequently overlooked long term consequences of a weak currency can have greater and longer lasting effects than the short run positives that a weak dollar brings to businesses and that the short term positives for businesses brought on by a weak currency are outweighed by the severe long term consequences to consumers and the economy as a whole.

Terminology

For this thesis, I opted to use the word currency instead of dollar because many of the examples are applicable on a global scale, and the use of the word “dollar” instead of “currency” would limit this thesis to only utilizing examples dealing with the American economy. In regards to consumers, the phrase “good for consumers” will be used to indicate that the buying power of citizens relative to worldwide prices has increased, while the phrase “bad for consumer” would indicate that the buying power of citizens relative to worldwide prices has decreased, essentially making their currency worth less on a global scale.

On the other hand, “good for business” would indicate that a weak domestic currency is promoting an environment that makes economic expansion more feasible. While “bad for business” would indicate that a strong domestic currency is promoting an environment that is slowing business expansion.

Chapter 2

Literature Review

It is often said that a weak currency is bad for consumers because it decreases buying power and good for businesses because it promotes an environment that makes expansion more feasible, and that a strong currency is good for consumers because it increases their buying power and bad for businesses as it often slows business expansion. While in the short run, it may seem like a weak currency is advantageous to businesses, there are many long term effects of a weak currency that prove in the long run, a strong currency is best for businesses and the economy as a whole.

In my research so far, I have discovered that there are pros and cons to both a strong and weak currency in the short term. One of the major positives that is often discussed is that a weak currency promotes business expansion. An example of a short run positive for a weak currency is the Euro last spring. Because the Euro was low in comparison to the dollar, European corporations who did a large portion of their business in the United States saw a rise in foreign sales (Jervell). Americans had more purchasing power since the dollar was stronger than the Euro so European products were in essence cheaper for Americans. This led many European corporations to consider expansion in the US where their product was thriving (Jervell).

Another positive of a weak currency is that tourism to that country becomes much more attractive to foreigners, and with an influx of tourists comes a boost for businesses. What remains to be seen, however, is if the spending of money by visitors makes up for the domestic sales companies lose when their currency is weak, especially in the luxury goods market. In

periods of prolonged weak currencies, citizens with a decreased buying power may opt to forgo large purchases and only buy necessities. When the Euro dropped last spring, Chinese visitors to Europe spent 34% more than the previous year, which allowed the fashion and luxury goods market across Europe to get some relief amid slow domestic sales (Jervell). However, in some industries a boost in tourists doesn't help as much as it does for the luxury goods market. Periods of prolonged weak currencies lead some companies open to foreign acquisition as was the case with Belgian-Brazilian company InBev acquiring American company Anheuser-Busch. In the midst of the Great Recession, Anheuser-Busch tried to reject InBev's unsolicited bid to take over the company, but with the American beer giant struggling with sales in the midst of a prolonged weak dollar, it couldn't afford to pass up InBev's \$52 billion bid (Economist).

One of the biggest reasons that people say a strong currency is bad for businesses is because investment returns earned abroad are reduced by the translation from the weaker foreign currency to the stronger domestic currency. However, when a country's currency is strong the multinational company may see increased domestic sales as citizens have a larger buying power that could make up for the translation costs.

Another negative often discussed with a strong currency is that it hurts exports. It becomes more expensive for other countries to purchase goods from a country with a strong currency. For countries who rely heavily on trade, this could be a concerning issue in a period of a prolonged strong currency. However, research suggests that currency levels may not play as large of a role in trade. It has been suggested that geography, the income of importing countries, and the productivity of the exporting country could be stronger drivers of trade than currency value (Zumbrun and Talley). Furthermore, in the case of the United States, according to the Federal Reserve, exports are a small enough share of the American economy that having a strong

dollar and taking a hit in trade is not significant enough to be of large concern to them. While on the surface a weak currency might look best for the economy and corporations, the long term effects are not as positive as the short term. A prolonged weak currency leaves companies susceptible to acquisition by foreign competitors, and the argument that a weak currency is good for exports only matters to economies that rely heavily on trade, and it is still unresolved how large of a role currency levels play.

A weak currency can provide relief for debtors. The increase in inflation that often comes with a weak currency boosts incomes and tax receipts, while the value of debt remains unchanged (Gibley). This makes it much easier for local borrowers to pay back their debt. On the other hand a weak currency makes paying back debt issued to foreign investors denominated in foreign currency more expensive (Gibley).

While there are some positives to a short run weak currency, in the long run a strong currency is advantageous for the economy as a whole. A strong currency makes travel abroad less expensive, gives citizens more buying power, and it is less expensive to import goods. While a short run weak dollar may seem more advantageous to businesses, a strong currency does not leave businesses open to foreign acquisition. However, domestic multinational companies who do a lot of business abroad may take an earnings hit with a strong currency.

There is some research to suggest that because the dollar is the world's main reserve policy, it remains in high demand even when the economic performance and fiscal policy of the United States does not merit the demand it receives (Fox). Because of this the dollar is always valued higher than it should be, and the US Treasury is able to borrow funds at a lower rate because of this (Fox). A strong currency also settles many fears about import prices as well as

inflation. During instances of a weak dollar import prices often rise which can lead to high inflation (Zumbrun and Talley).

Some countries chose to enact policies that will keep their currency low in order to boost economic growth. The United States has been doing this over the last few years by keeping interest rates low. While this may boost the economy in the short term, the long run effects are not always as promising. From January 1999 to October 2000, the Euro declined 25%, this low currency value allowed the Eurozone GDP to grow from 2.9% in 1999 to 3.8% in 2000 (Zumbrun and Talley). This short term bump greatly helped the Eurozone, but the trend did not continue. The Euro continued to remain weak against the dollar through 2002; however, growth dropped 2% in 2001 and 0.9% in 2002 (Zumbrun and Talley). Another example, of a weak currency, not providing the economic boost expected involves the Japanese Yen in the mid 1990s. From 1995 to 1998, the Yen depreciated 40% compared to the dollar (Zumbrun and Talley). In this case, there was not even a short term boost to the economy. The Japanese economy went from 2% growth to 2% contraction due to a rise in unemployment and shrinking export volumes (Zumbrun and Talley). The rise in unemployment may have affected the productivity of Japanese workers and led to the shrinking export volumes. In earlier paragraphs, it was shown that the productivity of a country is a stronger driver of trade than currency levels. Japan's low currency level should have boosted exports as other country's currency would have a strong buying power on Japanese goods, but the weak currency caused high unemployment across Japan and led to a drop in productivity as seen by the shrinking export volume produced. Neither Europe nor Japan saw lasting impacts on growth when their currencies fell in the 1990s, because a lower currency does not immediately translate into lower export prices. We can still observe this today. Throughout 2015, the Euro has sharply declined in comparison to the dollar,

but import prices from the European Union are down just 2.7%, clearly showing that weak currency does not immediately equal lower export prices. (Jervell).

It is also important to remember that for every appreciating currency, there is a depreciating currency in another part of the world. Some countries may see a short term bump by keeping their currency low, but there are long term issues that can arise if multiple countries try to keep their currency low for extended periods of time. Michael Gibley points out that if an intentionally low currency fails increase a country's market share of global exports, they may resort to instituting trade barriers that could limit the benefits of free trade, making the global economic less efficient and stunting global growth (Gibley).

Inflation and currency values are strongly related, and to fully understand my topic I have had to understand both the positives and negatives of inflation and how they can effect currencies. An interesting article I came across in my research examines whether or not it is appropriate for the United States Federal Reserve to step in and stop dollar depreciation. If dollar depreciation reflects rising inflation expectation, then inflation concerns would justify a more strict Federal Reserve policy (Poole). The question that remains is whether or not the Federal Reserve should step in to stop depreciation even though expectations approximate the Federal Reserve's inflation target.

There are upsides and downsides to inflation. The Federal Reserve can increase the money supply when they want to lower inflation rates to stimulate demand for goods and services and hope that firms will hire more workers and unemployment will fall (Samuelson). However, faster inflation can be a consequence of prosperity, and a moderate increase in inflation overtime is the most advantageous strategy (Samuelson). The negatives to inflation

come into play when inflation becomes unpredictable because it is harder to plan for the future and can be an issue when money becomes expensive to hold (Samuelson).

Chapter 3

Quantitative Analysis

Description

I want to quantitatively prove that in the case of a strong currency, a higher nominal exchange rate does not necessarily mean that a person is able to buy more goods and services at a less expensive price in another country. For the quantitative portion of my thesis, I am comparing the nominal appreciation and real appreciation rates of countries over time to show that exchange rates do not tell the entire story when it comes to a currency's value. Even though the exchange rate shows that the dollar is stronger than another country, it doesn't necessarily mean that Americans are getting a better deal when purchasing foreign goods or traveling internationally.

For example, when the dollar is worth more than another country's currency, Americans can feel like they are buying foreign products on a discount because the American dollar has a stronger purchasing power. However, the nominal exchange rate and nominal currency appreciation do not take changes in inflation into account. Real currency appreciation is the percentage change in exchange rates overtime, adjusted for changes in inflation, and therefore, a more accurate representation of how expensive foreign goods are to domestic citizens.

Real appreciation is nominal appreciation plus the difference in inflations of the two countries. The real appreciation of foreign currency represents the change in relative costs of foreign goods for Americans overtime. For example, if over a five year period, a foreign

currency depreciates by 2%, to an American, it may seem like the price of traveling and consuming in that country has gotten significantly cheaper in the last few years. However, when one looks at the real appreciation of that country's currency, inflation is taken into account. If the foreign currency depreciates by 2%, but also had inflation of 12%, and the US experienced 5% inflation, the costs of goods and traveling to that foreign country has actually increased by 5%.

Saying that citizens can travel abroad less expensively when their domestic currency is strong, is a common point as to why a strong currency is important for an economy. However, I believe that this can be misleading for Americans who are only looking at exchange rates and not taking changes in inflation overtime into account. The US dollar has been strong in the recent months prompting many people to start thinking about foreign travel destinations. I want to examine whether or not they are actually traveling at the discount they may believe they are.

Table 1: Most Popular Foreign Travel Destinations for Americans

Country	Currency	Exchange Rate 2009 (FC to \$1)	Exchange Rate 2015 (FC to \$1)	Inflation Rate 2009	Inflation Rate 2014
Argentina	Argentine Peso	3.798	8.373		
Australia	Australian Dollar	\$1.111	1.219	1.8%	2.5%
Austria	Euro	0.695	0.822	0.5%	1.6%
Brazil	Real	1.74	2.657	4.9%	6.3%
Canada	Canadian Dollar	1.051	1.158	0.3%	1.9%
China	Renminbi	6.826	6.205		2%
Colombia	Colombian Peso	2046.5	2372.6	4.2%	2.9%
Czech Republic	Koruna	18.119	22.326	1%	0.3%
Denmark	Krone	5.167	6.124	1.3%	0.6%
Dominican Republic	Dominican Peso	36.1	44.13	1.4%	3%
France	Euro	0.695	0.822	0.1%	0.5%
Germany	Euro	0.695	0.822	0.3%	0.9%
Greece	Euro	0.695	0.822	1.2%	- 1.3%
Hong Kong	Hong Kong Dollar	7.754	7.756	0.6%	4.4%
Indonesia	Rupiah	9350	12350	4.8%	6.4%

Ireland	Euro	0.695	0.822	- 4.5%	0.2%
Italy	Euro	0.695	0.822	0.8%	0.2%
Japan	Yen	92.39	119.45	- 1.3%	2.7%
Mexico	Mexican Peso	13.099	14.702	5.3%	4%
Netherlands	Euro	0.695	0.822	1.2%	1%
Panama	US Dollar	1	1	2.4%	- 0.1%
Peru	Nueva Sol	2.89	2.99	2.9%	3.2%
Singapore	Singapore Dollar	1.401	1.321	0.6%	1%
Spain	Euro	0.695	0.822	- 0.3%	0.1%
Sweden	Krona	7.116	7.713	- 0.5%	- 0.2%
Taiwan	New Taiwan Dollar	31.95	31.64		
Thailand	Baht	33.3	32.92	- 0.8%	1.9%
Turkey	Lira	1.493	2.327	6.3%	8.9%
United Arab Emirates	Dirham	3.673	3.673	1.6%	2.3%
United Kingdom	Pound	0.616	0.642	2.2%	1.5%

Results

To begin, I researched where Americans most frequently traveled in 2014 to examine whether or not the majority of American international travelers actually saved money. The list of most popular travel destinations included twenty-eight countries with varying currency levels from 0.616 British pounds per dollar to 2,046.5 Colombian pesos per dollar. The sample countries represent many different currency levels and economic systems, but are all places that Americans frequently traveled to which made these currencies ideal for comparison to the dollar. I researched each of these country's inflation rates in 2014 and in 2009 to see the change over a five year period. I also research each country's average currency values (foreign currency per dollar) in 2009 and 2014. Using this data, and the formulas below, I calculated the real and nominal appreciation rates for each country.

Table 2: Formulas Used to Calculate Real and Nominal Appreciation

Nominal Appreciation	$\text{Currency Value}_{2014} - (\text{Currency Value}_{2009} / \text{Currency Value}_{2009})$
Real Appreciation	$\{[\text{Foreign Currency}_{2014} \times (1 + \text{rate of foreign inflation} / 1 + \text{rate of domestic inflation})] - \text{Foreign Currency}_{2009}\} / \text{Foreign Currency}_{2014}$

When comparing the nominal and real appreciation rates that I calculated I found some interesting patterns. The majority of nations with developed economies such as Austria, Canada, and Japan's nominal appreciation rates were relatively close to their real appreciation. This makes sense because these countries have inflation rates that are similar and within a percentage point of the American inflation rate. In cases where two countries have similar rates of inflation, the exchange rate gives a clearer picture of whether or not foreign travel is truly more or less expensive with currency fluctuations. For countries like Canada and Japan, where the nominal appreciation and real appreciation rates were similar and the value of the dollar increased

compared to the foreign currency over the last five years, Americans were actually traveling abroad less expensively in 2014 than in previous years because of the increased strength of the American dollar.

For countries like Australia and the United Kingdom, the American Dollar's growing value compared to the Australian Dollar and the British pound, and Australia and the United Kingdom's similar nominal and real appreciation rates made it less expensive to travel to these countries in 2014 compared to 2009. The American Dollar's value against the Aussie Dollar increased by 18%, and increased by just over 4% to the British pound. While the Aussie Dollar and British pound are still worth more than the American Dollar, the American dollar clearly made up a lot of ground even when inflation is taken into account and made foreign travel to these destinations slightly less expensive than it was previously. In this example, a strong dollar does in fact make foreign travel more affordable to Americans.

However, there are some countries that initially look like they are less expensive travel destinations because of a favorable exchange rate, but when inflation is taken into consideration, we find that it has actually become more expensive to travel there. Brazil is a good example of this issue. The exchange rate in 2009 was 1.74 Brazilian real per dollar, and in 2004 the dollar's value against the real had increased to 2.657 real per dollar. This sent many American tourists flocking to cities like Sao Paulo and Rio de Janeiro. Once inflation is taken into account, there is a 7% difference between the real appreciation rate and the nominal appreciation. Brazil's currency depreciated by 52%, which on the surface looks like Americans would be buying everything in Brazil on a 52% discount, but when inflation is factored in, we find that Brazil's real appreciation rate is actually 59.765% which would mean that the price of traveling to Brazil has actually increased by 7.765% over a five year period. Other popular travel destinations for

Americans where this issue arose were Colombia, the Dominican Republic, Hong Kong, Indonesia, Mexico, Peru, and Turkey.

The Czech Republic also presents a slightly different situation where a strong dollar does make foreign travel less expensive, but not as severely as the nominal appreciation would lead travelers to believe. The Czech Koruna was valued at 18.119 koruna to dollar in 2009 and 22.326 koruna per dollar in 2014, a depreciation of just over 23%. When inflation is taken into account, we can see that the real appreciation is actually only 21.642%. Rather than prices being 23% less expensive, over a five year period, they have actually only decreased by 1.577%. In this case a strong dollar does make foreign travel to the Czech Republic less expensive, it only does so by 1.577% unlike the 23% the exchange rate may lead Americans to believe. This was also the case in Denmark where currency depreciated by 18.521%, but real appreciation was only 17.355%. Over a five year period, the price of traveling to Denmark actually became only 1.167% less expensive. Travelers to Sweden also experienced this issue. It became 1.92% less expensive to travel to Sweden over a five year period, instead of the 8.39% that the currency depreciation from 2009-2014 would lead travelers to believe. In Thailand, the Baht appreciated by 1.14%. Seemingly, it would now cost 1.14% more for Americans to travel to Thailand. However, real appreciation from 2009 to 2014 was 0.849% so it would actually only be 0.292% more expensive to travel to Thailand.

Many of the countries in the Eurozone were popular travel destinations for Americans including Austria, France, Germany, Greece, Ireland, Italy, the Netherlands, and Spain. Since all of these countries utilize the Euro their currency values in 2009 and 2014 and therefore, their nominal appreciation rates are all identical. However, each country has different inflation rates, and therefore, different real appreciation rates. At the examined time, 2014, the Euro was still

valued more than the dollar at a 0.822 euro per dollar exchange rate. The euro depreciated by 18.273% from 2009 to 2014, and many Americans would assume that while European travel was still expensive because the dollar was weaker than the euro, that it had become significantly less expensive since 2009.

The real appreciation rates of Austria, France, Germany, and the Netherlands are all equal to or within a percentage of the nominal appreciation rate for all countries in the Eurozone meaning that they are similar to the previous examples of Canada and Japan where the currency values give a good idea of whether or not it is more or less expensive to travel abroad. In this situation, while the Euro is still stronger than the dollar, it has become 18% less expensive for Americans to travel to Austria, France, Germany, and the Netherlands over a five year period.

Greece, Ireland, Italy, and Spain are all interesting examples because they are all members of the Eurozone who have been facing many economic difficulties such as high unemployment, political instability, and taking on large amounts of debt to stay afloat during the world financial crisis, especially during the examined period of 2009 – 2014. Ireland and Italy both have real appreciation rates of 16.644%, which mean it is not actually 18% less expensive to travel there because of inflation. Spain is in a similar situation with a real appreciation rate of 16.294%. Americans traveling to Spain in 2014, would only be saving a fraction of the nominal appreciation compared to 2009. Greece is perhaps the most plagued of the Eurozone nations and has the lowest real appreciation rate of the group. Greece's real appreciation rate of 14.897% is quite far from the Eurozone's nominal appreciation rate of 18.273%. In this situation, travelers are again not saving as much money as the nominal appreciation rate would lead them to believe.

Even though the dollar gained a lot of ground on the euro from 2009 – 2014, the euro was still valued higher than the dollar making European travel for Americans more expensive, not as

expensive as nominal appreciation rates would lead one to believe, but still not an ideal time for European travel. I want to further investigate and add to my literature review what happened to price levels in European countries like Greece, Ireland, Italy, and Spain during this time period. Many of these countries took on a lot of debt and had high levels of unemployment. I want to examine if this had any effect on the price of goods that foreign visitors may have been purchasing while they were abroad. I want to see if increased price levels for an economy experiencing a recession would impact how much visitors pay for goods and if this offsets any decrease in price of foreign travel compared to 2009.

In conclusion, this study demonstrates that low interest rates coupled with high inflation often lead to a weak currency. In my research I have found that for countries with similar rates of inflation to the United States that nominal appreciation is a good indicator of how expensive foreign travel is. However, for countries, often times with underdeveloped economies, that have different inflation rates than the United States, even though nominal appreciate rates may make it seem like American would be traveling there on a discount, it actually may be more expensive than times in the past or not as inexpensive as the currency values may seem when inflation is taken into consideration.

Chapter 4

Implications by Industry

Multinational Corporations

As mentioned earlier in this thesis, many people do not fully understand the short run and long run trade offs between a strong and weak currency. It is commonly said that a weak dollar is good for businesses because it makes foreign expansion easier for them. However, it was also pointed out in the Literature Review Chapter that an extended period of a weak currency can lead to a hostile foreign take over as was the case with InBev's acquisition of Anheuser Busch during the Recession.

There are many potential implications that businesses have to consider and be aware of in weak currency environments. One of the most serious would be potential take overs from foreign companies. Another situation that is not frequently part of the weak currency discussion is whether or not increased foreign sales offset the loss of business from domestic consumers. In a weak currency environment, domestic consumers do not have much purchasing power. They may opt away from purchasing brand name goods and buy generic brands instead, or cease their purchasing of luxury goods and services. While they are focusing on opportunities to increase their brand recognition on a global scale, there is the potential for a company to lose their domestic base of consumers who cannot afford their products during a weak currency environment. A drop in domestic sales is a frequently overlooked implication for multinational corporations. A long term weak currencies negatively affects consumers and their decreased buying power has a negative affect on the economy as a whole.

The implications of a long term weak dollar have repercussions across many industries especially food, motor vehicles, durable goods, travel, and homeownership. Using information from the Bureau of Labor Statistics, I examined the implications across these industries, and how the relative importance of each category reacted to a boom in the economy when the dollar is at its strongest, a recession when the dollar was falling, and a recovery when the dollar was beginning to regain strength. The relative importance of an item is a value weight expressed as a percentage of all items within an area (Bureau of Labor Statistics).

Food Industry

Table 3: Relative Importance of Food

Category	Relative Importance		
	Dec. 2007 Boom	Dec. 2011 Recession	Dec. 2013 Recovery
	Strong Dollar	Weak Dollar	Strengthening Dollar
Food – In General	13.833	14.308	13.891
Food at Home	7.66	8.638	8.187
Food Away from Home	6.173	5.669	5.704
Food Away from Home – Full Service	3.027	2.691	2.759
Food Away from Home – Limited Service	2.429	2.277	2.356

The relative importance that Americans placed on food during the Great Recession followed Engel's Law, which states that as income rises, the proportion of income spent on food

falls, even if actual expenditure on food rises (Bureau of Labor Statistics; Krumme). As Americans get wealthier, the percentage of income spent on food would then decrease according to Engel's Law. When consumers have a lot of money in their pockets, they are making more purchases, therefore, a smaller proportion of their overall budget is allocating toward food, even if the actual amount spent on food increases. During the Recession, when people had less money they were opting away from purchasing other goods, but still buying food so predictably the relative importance consumers placed on food increased and they spent a larger proportion of their budget on food because they ceased to purchase other goods. The above chart also notes that during the period of weak dollar during the recession, more Americans were opting to stay in to dine, most likely to save money instead of spending it at a restaurant. When they did go to restaurants, they opted for limited service restaurants instead of more expensive full service options. Predictably, the relative importance Americans placed on going out to eat dropped during a weak dollar recession and began to improve once the dollar began to regain strength in the recovery.

The implications of a long term weak dollar would severely hurt many restaurants as Americans place a greater importance on saving money by staying in to eat rather than going out to restaurants for meals. The type of restaurant that would hurt the most in a period of a long term weak dollar would be upscale full service restaurants, as Americans seemed to opt away from the fine dining experience with the majority deciding to stay at home for meals and if they did decide to go out to eat more chose less expensive limited service restaurants when the dollar was weak.

The numbers shown by the recovery period are also interesting. The relative importance placed on full service and limited service restaurants in the recovery period of a strengthening

dollar began to rise, but never quite reached their prerecession boom rates. This shows that even after the recession has ended consumers may still be wary of splurging on the more expensive options. They may have developed new habits in their eating at home routines or found they prefer the convenience of limited service options during the recession. It shows that just because the dollar made a recovery, it doesn't necessarily mean that people will fall exactly back into their previous spending habits and the full service restaurant industry could have long lasting implications from a few years of a weak dollar.

Motor Vehicle Industry

Table 4: Relative Importance of Motor Vehicles

Category	Relative Importance		
	Dec. 2007 Boom	Dec. 2011 Recession	Dec. 2013 Recovery
	Strong Dollar	Weak Dollar	Strengthening Dollar
New Vehicles	4.632	3.195	3.559
Used Vehicles	1.773	1.913	1.673

The relative importance placed on owning a new car dropped dramatically during the recession, and the value placed on used vehicles increased slightly. This data shows that many people chose to forgo buying a car at all, and if they did have to make a car purchase, they purchased used cars at a much greater rate than new cars. We can also see that the relative importance on buying a car in a recovery period, still is not close to its prerecession number. In

order to buy a new car, many people need to save for years. In a period of weak dollar, people are less likely to save because they need to focus on making ends meet during the struggles of a recession. Because people haven't been focusing on saving, less have the funds to buy a new car even as the dollar regains strength. The new vehicle industry could continue to feel the pains of a long term weak dollar years after the dollar regains its initial strength.

A real world example of this scenario is General Motors' fall from grace during the Great Recession. GM was once heralded as an American corporate icon, but fell victim to a loss in sales during a period of a weak dollar and ultimately had to file for bankruptcy and fell out of the Dow Jones Industrial Average for the first time since it was added in 1925 (Washington Post). Even with \$50 million in government support, GM was forced to cut thousands of jobs in their bankruptcy reorganization (Washington Post). This is a long term implication for the auto industry and further proves that bounces back from a weak dollar take more time for an automotive company, as General Motors is nowhere near the economic giant it was prerecession, but also an implication for average Americans as thousands of autoworkers lost manufacturing jobs when GM filed for bankruptcy as would be the case in a long term period of a weak dollar at many other manufacturing companies.

Durable Goods Industry

Durable goods are a major component of CPI, and as the name durable would suggest do not have to be purchased frequently. Common examples include vehicles, appliances, and furniture.

Table 5: Relative Importance of Durable Goods

Category	Relative Importance		
	Dec. 2007 Boom	Dec. 2011 Recession	Dec. 2013 Recovery
	Strong Dollar	Weak Dollar	Strengthening Dollar
Durables – In General	10.837	8.968	9.201
New and Used Motor Vehicles	7.191	5.651	5.815
Furniture and Bedding	1.036	0.729	0.787
Appliances	0.357	0.285	0.288

Motor vehicles make up a large component of durable goods, and the drop in relative importance of durable goods overall has a lot to do with the drop in relative importance of vehicles, but the relative importance on furniture and bedding as well as appliances saw dramatic decreases. These industries have also not recovered fully to their boom numbers, and we can again see that even though the dollar has regained strength in the recovery period, Americans are still holding off on big purchases which will impact this sector for years to come, and may also have an impact on the number of Americans who are employed in manufacturing many of these durable goods.

Homeownership Industry

Table 6: Relative Importance of Homeownership

Category	Relative Importance		
	Dec. 2007 Boom	Dec. 2011 Recession	Dec. 2013 Recovery
	Strong Dollar	Weak Dollar	Strengthening Dollar
Rent	5.765	6.485	6.977
Owners' Equivalent Rent of Primary Residence	23.942	22.543	22.505
Ratio of Rent to Owners' Equivalent Rent	0.241	0.288	0.31

The housing industry was hit hard by the Great Recession and families across the country lost their homes. From the boom to the recession, the relative importance of rent increased which shows that more Americans were renting instead of owning homes. A concerning aspect of these numbers is that instead of stopping or even slowing down in the recovery, the trend of Americans renting instead of buying has only increased, showing how slow the housing market has been to recover from the extended weak dollar in the recession.

Chapter 5

Policy Implications

For the last few years, the Federal Reserve has been keeping the federal funds rates near zero to spur the economy recovery post Great Recession. A low short term federal funds rate drives down the multiyear interest rates making this close to zero as well (Feldstein). These low interest rates have given some life to the economic recovery, but the long term weak dollar has caused industries like food, housing, and motor vehicles and other durable goods to suffer and slow their industry's recovery. A best of both worlds scenario would allow the United States to have a strong dollar domestically and a weak dollar internationally because the bump in exports it would bring in the short term would help give life to a faster growing recovery while also ensuring the success of the industries that are most susceptible to change in consumption patterns that occur when Americans have decreased buying power.

A strong dollar at home is achievable through lower inflation rates that would still allow for the strength of the dollar domestically (Feldstein). Americans would be able to maintain their standard of living without feeling the pain of a decreased purchasing power. On the other hand, a weak dollar is preferred on an international scale because it makes American exports less expensive to foreign consumers. The United States actually took steps to decrease the global value of the dollar in May of 2011 by working with China to increase the renminbi's value relative to the dollar at the same time that the Federal Reserve introduced quantitative easing (Wolverson). Feldstein notes that although exports only make up about 10% of the American

GDP, a rise in exports over the past few years has driven an increase of nearly three percent in the GDP (Feldstein).

As long as domestic prices stayed in check, a short term decrease in the dollar on an international scale would be the best way for the Federal Reserve to jumpstart the American economy. It is noted that the decline in buying power abroad forces households to bear much of the burden in periods of a weak dollar. However, Feldstein points out that imports only make up about 16% of the economy so if there were a slight drop in the international value of the dollar, domestic incomes would only drop by at most a few percentage points (Feldstein). This scenario would allow for the United States to get a GDP boost from increased exports, but wouldn't stretch the American people too far because their buying power would not drop as drastically. In the short run this plan could be the best policy for the United States to climb out of future recessions or give recoveries the quick boost they need to continue, but as we examined in the implications section, food, housing, and durable goods have all been slow to recover from a weak dollar and even the slightest drop in purchasing power may send these industries into a tailspin.

If the Federal Reserve enacted policies to weaken the dollar on a global scale to boost exports, the Federal Government could subsidize the restaurant, housing, and durable goods industries, as long as the Federal Reserve is intentionally keeping the dollar weak. This would put pressure on the Federal Reserve to make sure the weak dollar period isn't prolonged and would also make sure the industries that are most susceptible to changes in consumption are kept afloat until the economy is in a better place to allow the dollar to return to a stronger level. The Federal Government working with these industries would also help to alleviate any Americans losing manufacturing jobs, especially in the durable goods industry, while the dollar is weak. If

the period of a weak dollar was allowed to continue long enough it would be difficult for the Federal Government to support three large industries for an extended period of time, and without government support, they may be forced to lay off employee which would only deepen the economic troubles.

Chapter 6

Future Studies

Inflation Rates

In the quantitative analysis chapter of this thesis, the real appreciation was calculated with the formula:

Table 7: Formula Used to Calculate Real Appreciation

Real Appreciation	$\{[\text{Foreign Currency}_{2014} \times (1 + \text{rate of foreign inflation} / 1 + \text{rate of domestic inflation})] - \text{Foreign Currency}_{2009}\} / \text{Foreign Currency}_{2014}$
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The rates of inflation used were Consumer Price Index (CPI) inflation rates from the United States Internal Revenue Service (IRS). The CPI is the most widely used indicator of inflation and cost of living, but is not without its shortcomings. According to the Bureau of Labor Statistics, the CPI is a measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services (Bureau of Labor Statistics) This basket is made up of specific goods, and while the CPI does a good job of measuring the price changes of the goods that make up the basket, it does not represent all production and consumption in the economy; it is limited to measuring the goods that make up the basket. The CPI also does not take into account substitution effect or new products until they become a common enough purchase to be included in the basket of goods (Bureau of Labor Statistics).

A key piece in the definition of the CPI is that it measures changes overtime in the prices paid by urban consumers. In the United States, urban consumers make up 87% of the population, which would make the CPI a good reflection of the majority of Americans (Bureau of Labor

Statistics). The 13% not reflected include anyone outside of a metropolitan area such as people living on rural farms or those in the Armed Forces. In the United States, the CPI is a good indicator because the consumption patterns of 87% of the country are reflected. However, some of the countries in the list of most visited places are far more rural than the United States. There are six countries on the list of most visited places by American tourists that was used to calculate whether or not Americans saved money going abroad based on the real appreciation that have less than 70% of their population living in metropolitan areas (World Bank).

Table 8: Countries with Less than 70% of Population in Metropolitan Areas

Country	Percentage of Population Living in Urban Environments
China	54%
Indonesia	53%
Ireland	63%
Italy	69%
Panama	66%
Thailand	49%

Because a smaller proportion of the population lives in cities in these countries, the consumption patterns of a large group is not reflected in the CPI. Initially, it may seem like the CPI would be a poor inflation measurement for these countries, but in many rural countries, even though people may live on farms and outside of the major cities, they still do most of their consuming in the city. For example, if someone who lives on a rural farm in Thailand wants to buy a piece of equipment, he or she would have to go into the city to make their purchase. Even though they live outside of an urban area, much of their consumption takes place in a

metropolitan area, and the goods and services purchased in that metropolitan area would still be counted in the CPI. Therefore, the consumption of those in rural communities may still be reflected in the overall CPI.

Despite its shortcomings regarding substitution effect and new products, the CPI is widely used as the core indicator of both a country's cost of living and its inflation. I decided to use the CPI because I thought it was the most thorough measure of inflation and showed the most holistic view possible of a country's overall inflation.

Further research could be done using the Gross Domestic Product (GDP) Deflator rates instead of the CPI. Both are measures of inflation, but they take different variables into account. The GDP Deflator measures only domestic goods, and therefore, does not include anything that is imported. The CPI on the other hand, accounts for goods purchased by foreign consumers. GDP Deflator is calculated by comparing the current year to the base year and allows for the basket of goods to change with people's consumption patterns, unlike CPI which takes time to consider new products in its basket of goods.

This quantitative analysis focuses on whether or not Americans traveling to foreign countries actually saved money so I wanted to use a measurement that took imports and foreign involvement into consideration, but an interesting area for future research would be using another inflation measurement such as the GDP Deflator or the Producer Price Index. Additionally, the CPI is focused on urban areas. As I stated earlier, in many countries people in rural areas travel to urban environments to do much of their consuming, but if an American tourist traveled to a rural area instead of a major city, the price levels in the rural community may be significantly lower than a major city and that person could end up traveling and consuming on their trip for less money than the real appreciation would suggest because of the price level

differences between a rural and urban environment. Further research could be done to calculate the inflation in a country by region. The prices would vary from a small rural community to a large capital city in any country, but this change in prices would most likely be more severe in some of the less developed nations on the list, especially the ones that have less than 70% of their population living in urban areas. The CPI and GDP Deflators are not published on a regionally basis but a similar statistics may be possible to develop by comparing the price of certain goods in a rural area to the same good's price in a metropolitan area.

Appendix A

List of Countries Most Frequently Visited by Americans

Country	Currency
Argentina	Argentine Peso
Australia	Australian Dollar
Austria	Euro
Brazil	Real
Canada	Canadian Dollar
China	Renminbi
Colombia	Colombian Peso
Czech Republic	Koruna
Denmark	Krone
Dominican Republic	Dominican Peso
France	Euro
Germany	Euro
Greece	Euro
Hong Kong	Hong Kong Dollar
Indonesia	Rupiah
Ireland	Euro
Italy	Euro
Japan	Yen
Mexico	Mexican Peso
Netherlands	Euro
Panama	US Dollar
Peru	Nueva Sol
Singapore	Singapore Dollar
Spain	Euro
Sweden	Krona
Taiwan	New Taiwan Dollar
Thailand	Baht
Turkey	Lira
United Arab Emirates	Dirham
United Kingdom	Pound

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ACADEMIC VITA

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Education

The Pennsylvania State University
Schreyer Honors College and the Smeal College of Business
Major: Bachelor of Science in Finance
Minor: Economics

University Park, PA
Graduation: May 2016

Thesis Title: The Pros and Cons of a Strong and Weak Currency
Thesis Supervisor: Gary Gray

Work Experience

PNC Financial Services
Internal Audit Intern

Pittsburgh, PA
June 2015 – August 2015

- Tested, analyzed the effectiveness, and provided recommendations to improve the effectiveness of nine Sarbanes Oxley controls working across three different PNC Departments.
- Created an employee engagement plan complete with team building exercises, communication goals, and conflict management strategies for the newly formed Enterprise Testing Services Team.
- Worked with a group of ten other interns to improve the controls for the payroll, cash disbursements, vendor payments, and donation intake processes for the Veterans Leadership Program of Western Pennsylvania and presented our recommendations to the VLP Board and PNC Internal Audit Leadership.

State College Spikes
Ticket Intern

University Park, PA
May 2014 – August 2014

- Contracted over \$4,000 in new business by developing leads, prospects, and accounts in the State College area and serviced those accounts throughout the season.
- Facilitated day of game ticket sales and assisted in the accounting of balancing the box office at the conclusion of each home game.

Leadership Experience

Penn State IFC/Panhellenic Dance Marathon (THON)
Donor and Alumni Relations, Alumni Engagement Captain

University Park, PA
September 2014 – March 2016

- Manage a team of four in executing all THON 2016 Alumni Communications including a monthly newsletter to over 10,000 Penn State alumni and monthly communications to all chapters of the Penn State Alumni Association.
- Created the 2016 Alumni Group Guide to introduce groups to the newly formed Alumni Engagement Committee, ensuring that all Penn State Alumni Association groups have the proper knowledge on how to execute an Alumni Group Fundraiser, and provide examples of how alumni can continue their involvement with THON.

- Created two videos in conjunction with the Alumni Relations divisions of the College of Communications and Smeal College of Business to reconnect alumni with THON through learning various ways to involve their workplace in the fight against pediatric cancer.
- Acted as a liaison between twenty-three Penn State organizations and Donor and Alumni Relations for THON 2015 to answer their questions involving THON's letter solicitation campaign, donation boxes, and corporate donors.
- Facilitated in a group of three the 2015 Alumni Challenge donation campaign, including creating a marketing campaign reaching over 40,000 Penn State alumni across the country.

Springfield, Benefiting THON

Donor and Alumni Relations Chair

- Executive board member of Penn State's fourth largest THON organization, raising over \$194,000 for THON 2016.
- Wrote templates for Springfield's letter solicitation and online donating campaigns with my co-chair and manage the sending of over 4,000 letters and emails to Springfield alumni and members' family and friends.
- Manage relationships with our corporate donors and act as their liaison to Springfield, answering their questions about THON's corporate benefit structure, tax information, and how they can be more involved with THON.
- Led the creation of the Springfield Alumni Interest Group organizing 140 alumni into one group, successfully planning events, sending monthly communications, and facilitating alumni fundraising.

Lion Ambassadors

University Park, PA

Be A Part from the Start Chair; New Member Education Committee January 2013 – May 2016

- Lead campus tours and assist in the planning and execution of 12 projects a year benefitting the Penn State community.
- One of three chairs that organized the "Be A Part From the Start" pep rally for over 6,000 freshmen to introduce them to various campus organizations and university administrators.
- Plan and execute the New Member Celebration for fifty new members, and as a part of the New Member Education Committee work to ensure all new members are learning Lion Ambassadors responsibilities.