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The Impact of the Shortage of Safe Assets on the Global Economy

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THE IMPACT OF THE SHORTAGE OF SAFE ASSETS
ON THE GLOBAL ECONOMY

A Capstone Experience/Thesis Project

Presented in Partial Fulfillment of the Requirements for

The Degree Bachelor of Science with

Honors College Graduate Distinction at Western Kentucky University

By

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* * * * *

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Abstract

   Essentially, the U.S. is like a bank that serves as an intermediary for the world's financial assets. It sells liquid assets to the world's savers at the price of net foreign investment income. Foreign investors are increasingly passing on assets with higher yield in order to purchase low-yield, but highly liquid and safe U.S. assets, such as the U.S. dollar and U.S. Treasury securities. Consequently, there is a real threat that has emerged as a result of the U.S.'s position as a financial intermediary to the world: a shortage of safe assets. This shortage of safe assets matters because it suspends hope of a full economic recovery due to the reduced nominal spending caused by these holdings. This scenario can seriously endanger the value of the dollar and the safety of U.S. safe assets, which would almost certainly lead to more future economic downturns. With this paper I intend to analyze the reasons for the shortage of safe assets and the impact it has had on the global economy and the United States in its position as a banker to the world, and then use econometrics to quantify and prove its importance to the state of the global economy.

Keywords: Financial Assets, Economics, Global Imbalances, Econometrics

Dedicated to my friends and family

ACKNOWLEDGEMENTS

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CHAPTER 1

INTRODUCTION

With my thesis I intend to analyze the reasons for the shortage of safe assets and

the impact it has had on the global economy and the United States in its position as a

banker to the world, and then use econometrics to quantify and prove its importance to

the state of the global economy.

Over the past two decades, the rising of global imbalances in the world economy

led to many fears that eventually the world would satiate their demand for safe assets, and

that the continuously rising U.S. trade deficit would create a lack of confidence in the

United States' safe assets, which are assets that have minimal default risk and can be

converted to cash quickly, by sale on secondary markets. As a result, the dollar would

depreciate wildly, the U.S. would lose its financing for its deficit, and a crisis would

ensue. Several years following the emergence of these theories the world did experience a

Great Recession, but global current account imbalances were not the primary culprit as

predicted; instead, the unfettered housing boom, poor regulation of financial institutions,

and controversial monetary policy decisions created a scenario in which a recession was

unavoidable. However, the dollar remained the largest reserve currency in the world,

while the U.S. Treasury bills are still the world's safest assets. This leaves the question of

how exactly the dollar weathered the perfect storm of the Great Recession and the U.S.

retained its ability to create the safest assets on the market. The answer lies in its role as a

banker to the world, which will be discussed in later sections.

If the United States did not experience a crisis due to their external debt obligations, then

how dangerous is the deficit to the U.S. economy? For starters, it's important to

remember that a trade deficit is exactly equal to a capital account surplus, meaning that

the U.S.'s debt has effectively resulted in investment in the U.S. economy. Although

these illiquid investments are certainly riskier than what the U.S. is providing, the higher

yields provided help the U.S. to sustain growth. Also, the main way that the deficit would

hurt the U.S. is if it resulted in a loss of confidence in the U.S.'s assets and dollar.

Because U.S. financial markets are the most transparent, liquid, and efficient in the

world, it is unlikely that countries could find investments that are as safe anywhere in the

world. The U.S. has also acknowledged the threats posed by its excessive debt, and has

already begun to increase its savings and slightly weaken the dollar to encourage exports.

Conversely, many foreign countries' currencies, especially China, have appreciated

which exhibits their desire to spend more. Lastly, although the U.S. could not sustain a

deficit that permanently increased relative to its gross domestic product, market forces

would eventually alter exchange rates and interest rates enough to bring the demand and

trade balance back into equilibrium.

Clearly the dangers of the world's global imbalances were overstated, as the

United States managed to slow its spending and transition to a more sustainable path.

However, there is a real threat that has emerged as a result of the U.S.'s position as a

financial intermediary to the world: a shortage of safe assets. This shortage has largely

been then the result of emerging markets, such as China, who have high safe asset

demand, but not an equivalent supply. The volatility of their macroeconomic procedures results in extra risk due to their frequent crises and expansions that reduces the value of their assets. Consequently, when the Great Recession hit these countries all desperately wanted assets that were liquid and safe. Not being able to turn to each other, they poured their funds into U.S. assets which don't have the necessary supply to meet the demand. Furthermore, the excessive demand for safe assets has pushed the return on Treasuries extreme lows, and assets that were previously safe in Europe have been deteriorated. This shortage of safe assets matters because it suspends any hope of a full economic recovery due to the inhibited nominal spending that can't take places because of the shortage. It also creates an atmosphere where the yield on safe assets is so low, that investors begin desperately searching for returns, which was a main contributor to the recession in the first place. Also, the resulting Triffin dilemma creates a scenario that actually can endanger the value of the dollar and the safety of U.S. safe assets, which would almost certainly lead to more future economic downturns.

CHAPTER 2

GLOBAL IMBALANCES AND THE GREAT RECESSION

For the past decade and a half, economists, policy-makers, and the media alike have expressed major concerns over the level of global imbalances, especially in regards to the United States. Global imbalances can be defined as "External positions of systemically important economies that reflect distortions or entail risks for the global economy." (Bracke, Bussiere, Fidora, & Straub, 2008). This means that global imbalances are the disparity of the current account balances positions of individual economies that have a significant impact on the economy as a whole. The current account balance is comprised of the balance of trade in a country (i.e. a country's imports of goods and services minus its exports of goods and services), the net factor income of a country (i.e. it's earnings on foreign investments minus it's payments on foreign investments), and cash transfers.

In the early 2000's fears began to surface about how sustainable the U.S. current account deficit would be in the long term. The trade deficit had been growing as a percentage of total GDP since the 1990s, and the investment position of the U.S., that is, the difference between U.S. owned assets abroad and foreign owned assets domestically, had also grown even larger. Economists across the nation were raising questions concerning how sustainable the U.S. current account deficit would be, and how

detrimental the inevitable reversal would be to the economy. It could either be a slow and gradual transition or come in as a "hard landing" in which investors pull out of U.S. dollar-denominated assets for fear of the U.S. not being able to pay back its debt and the subsequent run on the United States financial system (Poole, Coughlin, & Pakko, 2004).

The current account deficit in the United States reached unprecedented heights in the mid-2000's, intensifying the fears of a currency crisis in which the dollar would rapidly depreciate and result in a debilitating recession. The global imbalances became a double-edged sword, because as the United States received increasing inflows of foreign capital to finance the trade deficit, it also accumulated a continuously growing federal debt (Fiorentini, 2011). However, these imbalances didn't result solely as a consequence of the United States' population buying more than they were producing, though that certainly played its part. One potential explanation for the current account deficit was given by former Federal Reserve Chairman Ben Bernanke, in the form of his Global Savings Glut Hypothesis. This theory proposed that the desire for excess savings by aging foreign markets resulted in high current account deficits and low treasury yields in the U.S. (Bernanke, 2005).

When these fears of a currency crisis first emerged, there were two schools of thought regarding their importance and potential impact: the Dr. Doom School and the Dr. Pangloss School. One of the main proponents of the danger of global imbalances and the "hard landing" scenario was economist Nouriel Roubini, a New York University professor dubbed by the media as "Dr. Doom." In his book, Crisis Economics, he discusses how he started to see disturbing trends in the U.S. current account balance he thought would lead to a devastating U.S. recession and a global slowdown. He warned

that at some point, emerging-market demand for US assets would be sated and that

emerging markets would conclude that US assets were no longer safe. The dollar would

crash and financial institutions would be caught wrong-footed, and a crisis would result

(Roubini & Mihm, 2010). The second major school of thought regarding the global

imbalances situation was the Dr. Pangloss School, named after the famous optimist of the

Voltaire satire, *Candide*. Economists who subscribed to this school viewed the global

imbalances as a structural result of emerging economies demand for dollar reserves,

which the U.S. happily traded for cheap imports (Eichengreen, 2014).

However, Figure 2.1 shows us that even though the United States' current account

deficit as a percent of gross world product reached alarming levels before the recession,

they have since narrowed and no longer present the danger of a dollar crisis or a run on

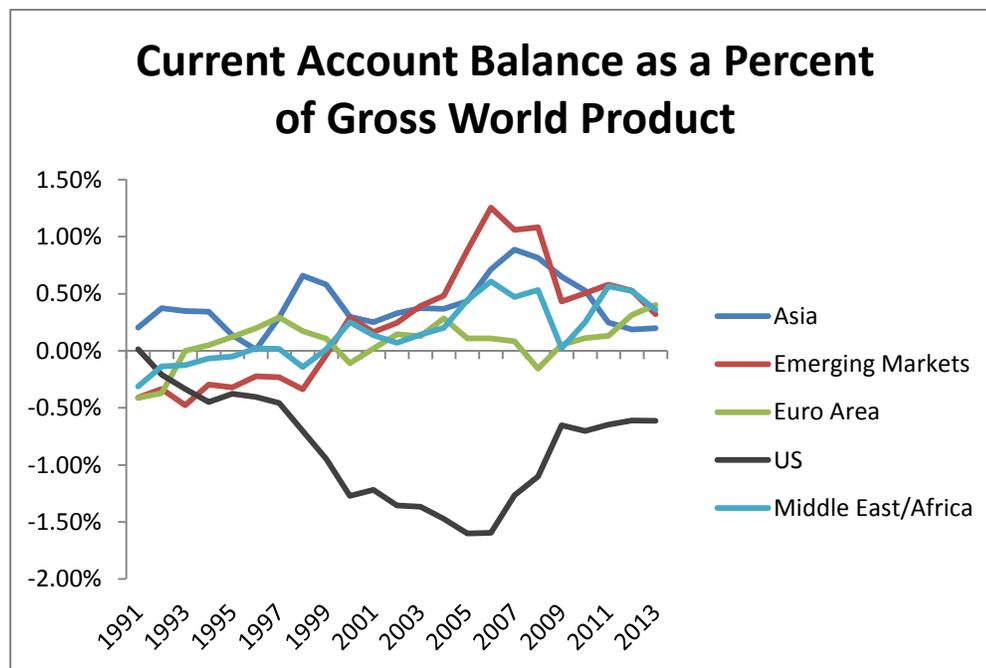United States financial institutions, as the United States is consciously attempting to

Figure 2.1 shows the extent of the disparity between the U.S.'s current account deficit
and other major economies. Data Source: (World Economic Outlook, 2014)

This proves the fallacies in both schools of thought. The United States did experience a severe recession during the Global Financial Crisis, but clearly it wasn't as a result of the large current account deficit. Instead, the housing boom of the mid-2000s burst when subprime borrowers foreclosed on their mortgages, resulting in a collapse of many financial institutions that had created new, high-yield investment securities in order to compensate for the low interest rates on safe assets. The global imbalances may have increased the severity of the recession due to the increase of savings from emerging economies that were then plugged into the unsafe mortgage-backed securities, but they were not the primary cause. Instead, the United States recognized the dangers of excessive debt, and accordingly increased its savings and weakened the dollar to encourage exports. (Eichengreen, 2014) The dollar did not suffer, as predicted; instead,

Figure 2.2 shows the USD index evaluated by FXStreet.com (US Dollar Index, 2014). It evaluates how the U.S. dollar performed against a basket of currencies including the euro, pound, Japanese yuan, Swiss franc, Canadian dollar, and Swedish krona.

the dollar actually benefited, because foreign investors deposited their funds into United States Treasury bills, as they were desperate for safe assets. Figure 2.2 shows how the dollar's exchange rate behaved when weighted against a basket of currencies over the last ten years. When the Great Recession occurred, the dollar did not spiral out of control as the Dr. Roubini predicted; instead it depreciated to an acceptable level that would allow the U.S. to bring in cheaper exports in order to begin to close the global imbalances gap. However, the question remains that if the global imbalances were perceived to be such a threat to the U.S. economy and currency, how did the U.S. escape the impending crisis presented by its debt obligations?

CHAPTER 3

THE UNITED STATES AS A BANKER TO THE WORLD

To answer the question raised in the previous section, it's important to understand

the United States' role as a banker to the world. Essentially, the U.S. is a bank that serves

as an intermediary for the world's financial assets, and sells liquid (i.e. can be sold

quickly and with no discount to its price) assets to the world's savers at the price of net

foreign investment income. The foreign investors will pass on assets with higher yield in

order to purchase low-yield, but highly liquid and safe U.S. assets (Neilson, 2012). For

example, when a retail bank that provides service to the general public receives a deposit

from a customer, that money goes into a general pool along with everyone else's and that

customer is credited for the amount of the deposit. The bank will then use that money to

make loans to other customers or businesses, charging them a higher interest than it is

paying the depositing customer, so that it can turn a profit. The United States functions

almost identically in the world economy. The U.S. sells Treasuries, other government

securities, and corporate debt to foreign savers who want safe, liquid assets, while it buys

capital flows such as foreign equities and direct investments which boost the economy

and have higher yields.

In order to show the U.S.'s central role in international financial markets, Figure

3.1 shows the U.S. liabilities to foreign markets in total U.S. dollars, while Figure 3.2

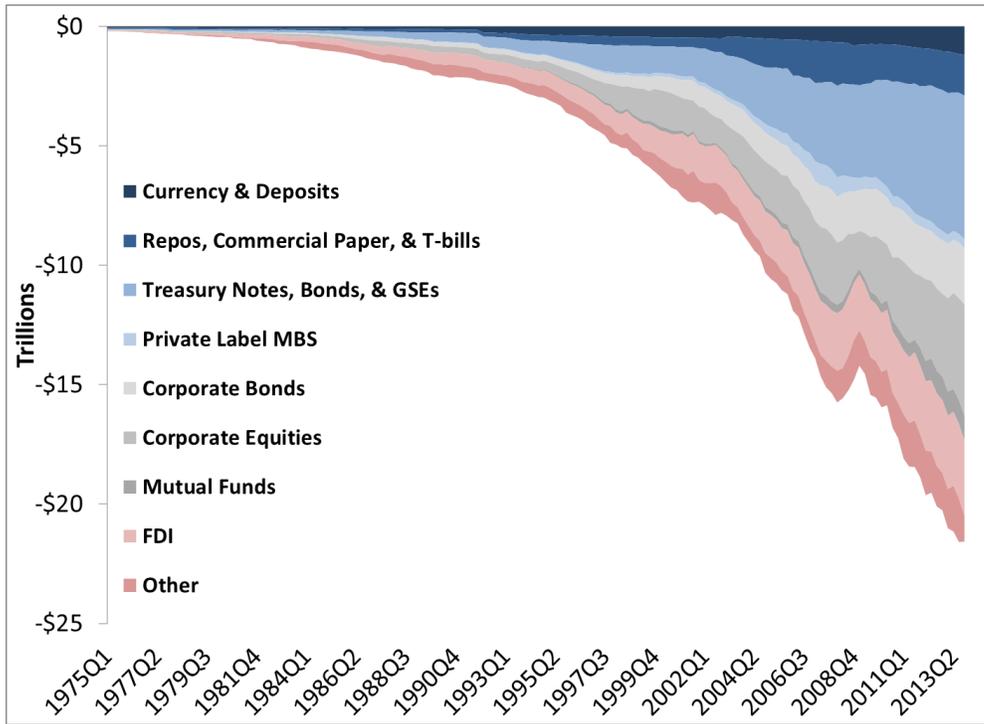shows those liabilities in percentages of total liabilities.

Figure 3.1 shows the U.S. liabilities to foreign markets, in U.S. dollars. Data for Figures 3.1-3.4 (Financial Accounts of the United States, 2014)
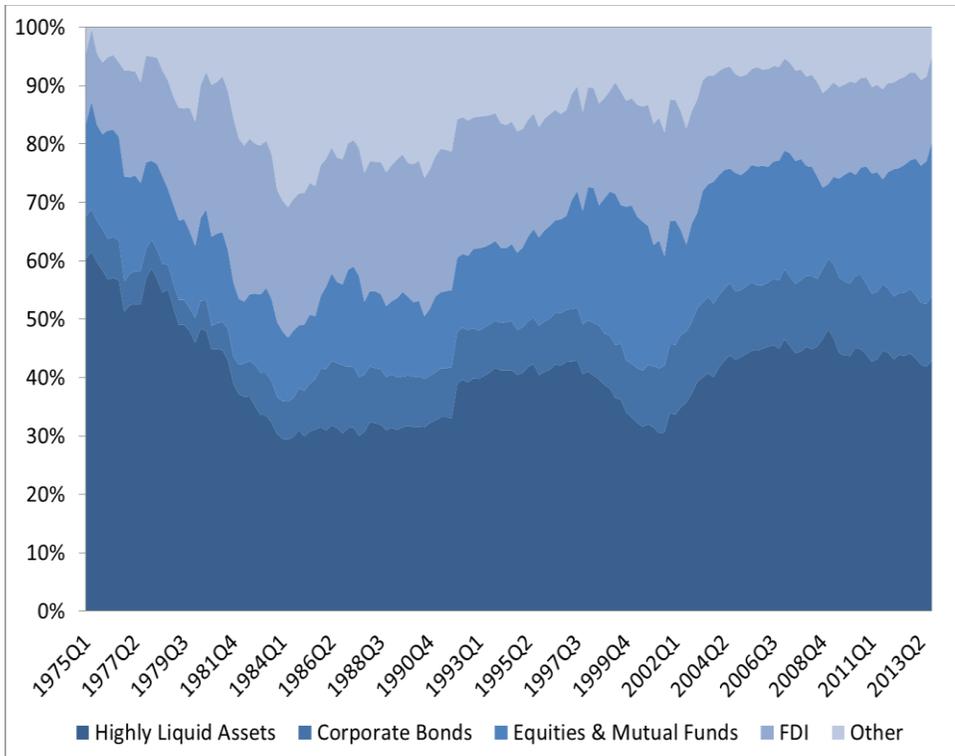
Figure 3.2 shows the U.S. liabilities to foreign markets, in percentages of total liabilities.
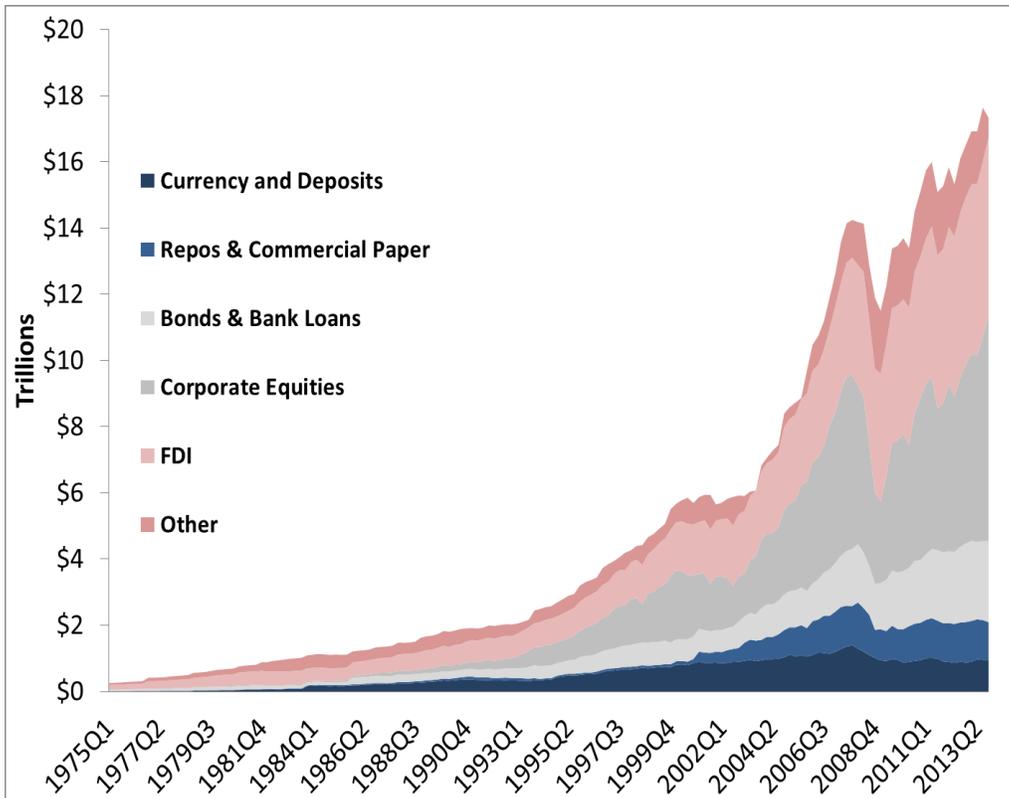

Figure 3.3 shows U.S. claims on foreign markets, in U.S. dollars.
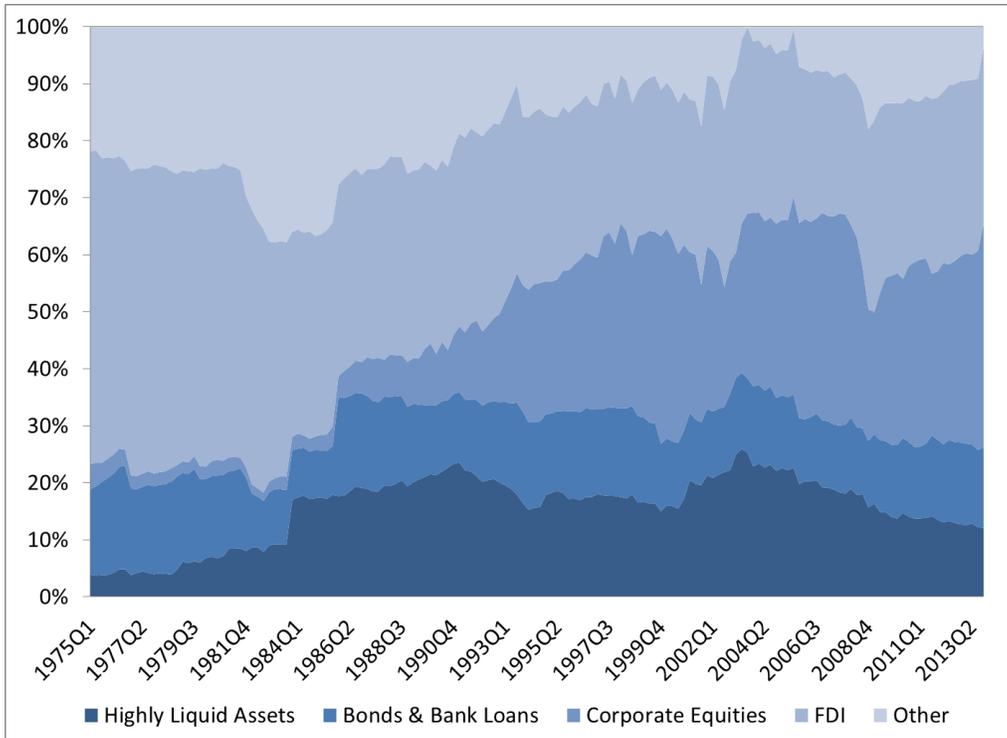
Figure 3.4 shows U.S. claims on foreign markets, in percentages of total liabilities.

In Figure 3.1, the liabilities in either gray or blue are what are referred to as "safe assets." They are highly liquid and have a nearly infallible guarantee that they will be paid back, because they are predominantly backed by the U.S. government or large financial institutions. The liabilities in pink or red are considered unsafe assets, which are riskier because many are privately owned and have a higher chance of default. These unsafe assets carry a higher risk premium, which results in a higher yield upon maturity. Figure 3.2 shows these same liabilities in terms of percentages of the total liabilities. Figures 3.3 and 3.4 use the same format as the previous two graphs, but show the U.S. claims on foreign markets. Figures 3.1 and 3.3 show that the levels of U.S. liabilities are nearly identical to the levels of U.S. assets, which exemplify the United States' role as a

financial intermediary. By looking at 3.2 and 3.4, we can see that foreign markets are

much more interested in purchasing the United States' safe assets, which comprise nearly
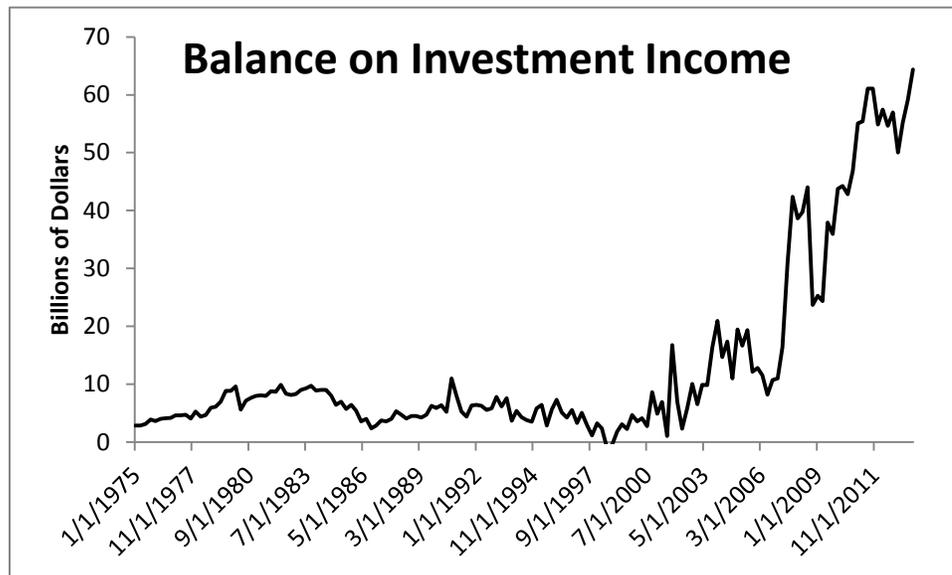
40 to 50 percent of U.S. liabilities. The

Figure 3.5 shows the net foreign investment income that the U.S. receives on its assets
owned abroad minus its liabilities owed to foreign markets. The highly positive interest
income in later years exemplifies the United States' role as a banker to the world. Data
received from (Bureau of Economic Analysis, 2014).

U.S., on the other hand, only invests approximately 10 to 15 percent of safe assets from

abroad. This discrepancy proves that the United States is seeking net foreign investment

income, meaning that it is earning significantly more on its liabilities owned abroad than

it pays out to investors, which is shown in Figure 3.5.

The trade deficit is exactly equal to the surplus in the capital account plus the

financial account; this occurs not simply because the U.S. is borrowing from foreigners in

the traditional sense, but because the foreigners are investing in U.S. assets, which are

widely considered the safest assets in the world. The capital inflows that are received as a

result of the United States' current account deficit kept the dollar strong, which led to

cheaper imports and more expensive exports. This has resulted in foreigners owning 2.5 trillion dollars more in U.S. assets than the U.S. owns in foreign assets in the early 2000s. (Poole, Coughlin, & Pakko, 2004) Another useful thing to consider is that the U.S. dollar serves as a medium of exchange and store of value in countries all around the world, which means that the U.S. has a significant pull on all international monetary policy.

As portfolio adjustments exploit new diversification opportunities (i.e. invest in new, safe assets that are created as a result of the high demand for safe assets) and as growth continues abroad in commodity-exporting countries, the U.S. current account deficit will gradually stabilize and return to manageable levels without any needed drastic adjustments in monetary policy or exchange rates (Poole, Coughlin, & Pakko, 2004). Before the debt obligations overtake the country's national income, market forces will direct exchange rates, interest rates, and growth rates in a way that will put the U.S. on a sustainable path, so the massive current account deficit will not be seriously detrimental to the U.S. economy in the long run.

The main risk that the United States could encounter is if it faces illiquidity, and experiences a run in which it could not raise funds to pay for foreigners all clamoring to be paid at the same time. If some panic entices foreigners to stop lending and investing and be paid back in cash, then the "bank" of the U.S. could potentially fail due to the inability to transfer assets into cash quickly. However, it is unlikely that this would happen anytime soon, because liquidity and safe assets are in high demand and there is no safer source of those than the U.S (Neilson, 2012).

As mentioned in the previous paragraphs, this cycle inevitably results in a current account deficit for the U.S., which means that its purchases of goods and services

from abroad are greater than its sales to foreign countries. Consequently, the amount of dollar-denominated assets and actual currency owned abroad has resulted in a fiscal variation of the Triffin dilemma for the United States, which results when foreign demand for reserve assets exceeds the amount required to meet domestic demand. This paradox means that the U.S. has to provide more safe, liquid assets than is needed domestically. This strains the U.S.'s ability to create and supply enough sound assets to foreign investors to meet demand (Farhi, Gourinchas, & Rey, 2011). The global imbalances and Global Financial Crisis have resulted in a shortage of safe assets in the world economy.

CHAPTER 4

THE SHORTAGE OF SAFE ASSETS

One of the main articles published on the shortage of safe assets is *On the Macroeconomics of Asset Shortages* by MIT professor, Ricardo J. Cabellero. Originally, the asset shortage was mostly prominent in emerging markets due to financial instability, but it is now more evident on a global scale, beginning with the Japanese asset meltdown of the 1990s, European asset stagnation in the late 1990s, and further inflamed by the massive growth of China and expanding commodity countries, who have high safe asset demand, but not an equivalent supply. Emerging markets are an issue for three main reasons: their lack of management experience leads to a chronic asset shortage, the tendency to attribute the global imbalances to these countries, and their collective crises and their rapid expansions. The volatility of their macroeconomic procedures results in extra risk that reduces the value of their assets. The major solution to this economic volatility is financial development, where sound assets could remove the potential for speculative bubbles. Essentially, emerging markets have rapid and frequent expansionary and recessionary cycles, large global imbalances, low interest rates, and financial panics which contribute to the asset shortages (Cabellero, On the Macroeconomics of Asset Shortages, 2006).

Ultimately, the shortage of safe assets matters for several reasons. One major reason is that safe assets serve as a medium of exchange. Therefore, the shortage of

safe assets creates an excess money demand for investors that decreases the amount of nominal expenditures in the economy (Beckworth, 2011). If investors have a high demand to hold on to their money for fear of investing in unsafe assets or because they are unable to find a safe asset with a satisfactory yield, then they won't fuel consumption or investment in the economy which results in an overall reduction of Gross Domestic Product and international transactions. Furthermore, the consequential Triffin dilemma that was mentioned in a previous section causes the U.S. to consistently run current account deficits, which put pressure on its ability to create safe assets.

One major issue with creating value for assets in the world economy is that just because a country can produce output, that doesn't mean they will be able to sell the rights to that capital and consequently create an asset. The United States has the most efficient, transparent, and safe financial markets in the world, so even another country was capable of producing assets that they could ensure were safe and liquid, it is unlikely that it would produce a safe asset shock large enough to stimulate the global economy. Another way to help increase the value of assets is an endogenous real interest rate drop, which would raise the value of existing assets and cover part of the asset shortage. A drop in inflation or deflation would also revalue assets and decrease the shortage (Cabellero, On the Macroeconomics of Asset Shortages, 2006).

One other potential solution for the safe asset shortage is given in the article, *How a US Sovereign Wealth Fund Can Alleviate a Scarcity of Safe Assets*, by Miles Kimball, the author defends the benefits of the idea of a US Sovereign Wealth Fund, which

essentially involves having a robust supply of assets that can serve as collateral. Kimball believes that government spending isn't ideal due to the government debt, and buying safe assets wouldn't result in further safe assets available to the private sector. The answer then is for the government to buy risky assets, which supports his proposal for a Sovereign Wealth Fund that would shield the country from risk while diversifying its asset portfolio (Kimball, 2013).

In a separate paper, Cabellero categorizes the two major response proposals to the safe asset shortage problem as either arranged contingent capital injections, or arranged contingent asset and capital insurance injections (Cabellero, The "Other" Imbalance and the Financial Crisis, 2010). Both of these responses deal directly with handling the amount of crisis risk that is associated with this problem. The former suggests that access to capital during crises needs to be arranged in advance, because it is often hard to raise capital during a recession. This aims to reduce the cost of holding capital when it is not necessary, allowing funds to be allocated more evenly and appropriately to financial assets and capital. The latter proposal deals directly with crises expectations; essentially, providing insurance injections means that as long as the government can assure the general public that resources will be available during an impending crisis, then the panic will be less pronounced and easier to deal with. Cabellero argues that a combination of these two proposals would be necessary in the case of a safe asset shortage inspired crisis.

The emergence of the safe asset shortage problem is dangerous and counter-productive to the world economy, and although some short-term solutions exist, a longer

lasting, more effective solution needs to be created in order to maintain macroeconomic growth and stability. Even though the Great Recession ended several years ago, the U.S. economy is still not producing at levels which it could potentially have reached beforehand, and one of the major reasons is this shortage. Despite the Recession ending, fears of other crises such as the Euro Crisis or the fiscal cliff threats in recent years have continued to keep the demand for safe assets high, even though there is not equivalent supply. In the next section, I will set explain the model that I used to quantify the effect that the shortage of safe assets has on the global economy.

CHAPTER 5

DATA AND METHODOLOGY

In order to test the impact that this shortage of safe assets has had on the global

economy, I used econometrics to create a vector autoregression model. A vector

autoregression (VAR) is an extension of the univariate autoregressive model to dynamic

multivariate time series, and is typically used in analyzing the linear correlations and

interdependencies between different variables. In a normal regression, there is one

dependent variable that is estimated based on its relationship with a series of independent

variables. However, in a vector autoregression, every variable is a dependent variable,

forming a system of equations in which each variable is regressed on itself and other

variables. This allows each variable to evolve endogenously throughout the forecast,

meaning that as each variable changes, the others will react and transform throughout the

sample period. After estimating my model to evaluate the relationships between the

variables based on their actual data, I created an in-sample counterfactual forecast. This

means that instead of using the actual data for the level of safe, liquid assets, I forecasted

the level of safe assets that would be available if the Great Recession hadn't occurred.

After creating the new data based on this forecast, I inserted the new potential variable

into the model in place of the actual level of safe assets. This allowed me to create a

forecast for what the levels of the variables could have been if there had been no Great

Recession, and the subsequent shortage of safe assets.

After creating my potential versus actual forecast, I created an impulse response function for the data, which shows how the economy would react overtime to an exogenous change in a variable, which in this case would be liquid assets. This allowed me to analyze the impact that a properly timed positive safe asset shock (i.e., an increase in safe assets) would have had on various economic indicators, thereby quantifying the effect that the shortage of safe assets has on the global economy.

The variables that I used in my regression were as follows:

- Liquid Assets: This is the focus variable, and is equal to the amount of safe, liquid assets supplied by the U.S. economy.

- Global Commodity Prices: This variable represents the prices of global commodities such as oil, minerals, and other market driven goods and services. Global commodities are especially important in developing and emerging economies due to their reliance on key exports, so this variable will reflect the growth of those economies.

- Advanced Economies Industrial Production: This variable is an economic indicator used to display the impact that the shortage of safe assets will have on advanced economies.

- Emerging and Developing Economies Industrial Production: As with the previous variable, this economic indicator will help quantify the effect that the shortage of safe assets will have on emerging economies.

- Advanced Economies Consumer Price Index (CPI): The CPI for a group of countries represents the price level of a market basket of goods and services, and

is typically used as a measure of inflation in the economy. Because I am using time-series data, CPI is included to control for inflation over time.

- Emerging and Developing Economies Consumer Price Index: This variable controls for inflation in emerging markets, which are subject to wider swings of inflation than advanced economies.

- 5 Lag Operators: I included five lags of the data when producing my VAR. This means that I regressed each variable on itself lagged five periods. Lag operators are used to account for cyclicality in the data, reducing the serial correlations between the residuals and resulting in white noise.
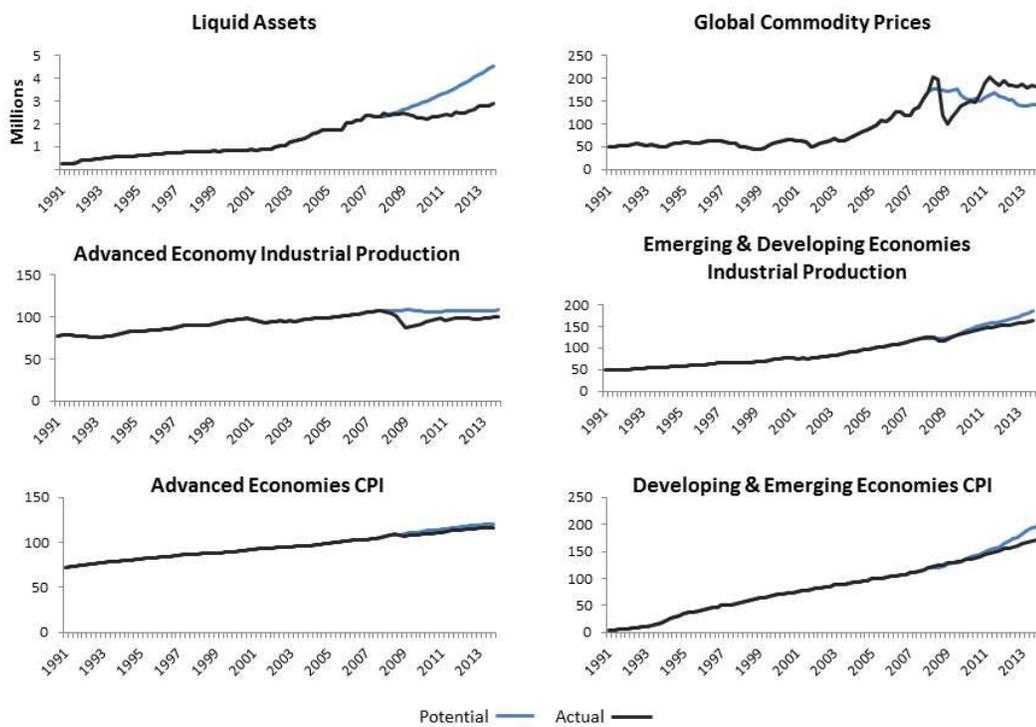
RESULTS

Potential vs. Actual

Figure 6.1 shows the results of the vector autoregression forecast.

By using a counterfactual vector autoregression forecast, I was able to create a forecast displaying the potential trends of the 6 variables if the Global Financial Crisis had not occurred, resulting in a deterioration of many safe assets in the U.S. and abroad. Obviously, there is a significant difference in the amount of safe, liquid assets. Although

the VAR did not produce a very impressive forecast of global commodity prices, it did show noteworthy differences in the levels of industrial production in both advanced economies and emerging and developing economies. Clearly, the shortage of safe assets is preventing global economies from investing because of the low yields of Treasuries and the fear of investing in unsafe assets, which was a major stimulant of the Great Recession. Their lack of investment due to the shortage of safe assets matters because it suspends any hope of a full economic recovery due to the inhibited nominal spending that can't take places because of the shortage.

Impulse Response Function to Positive Liquid Asset Shock
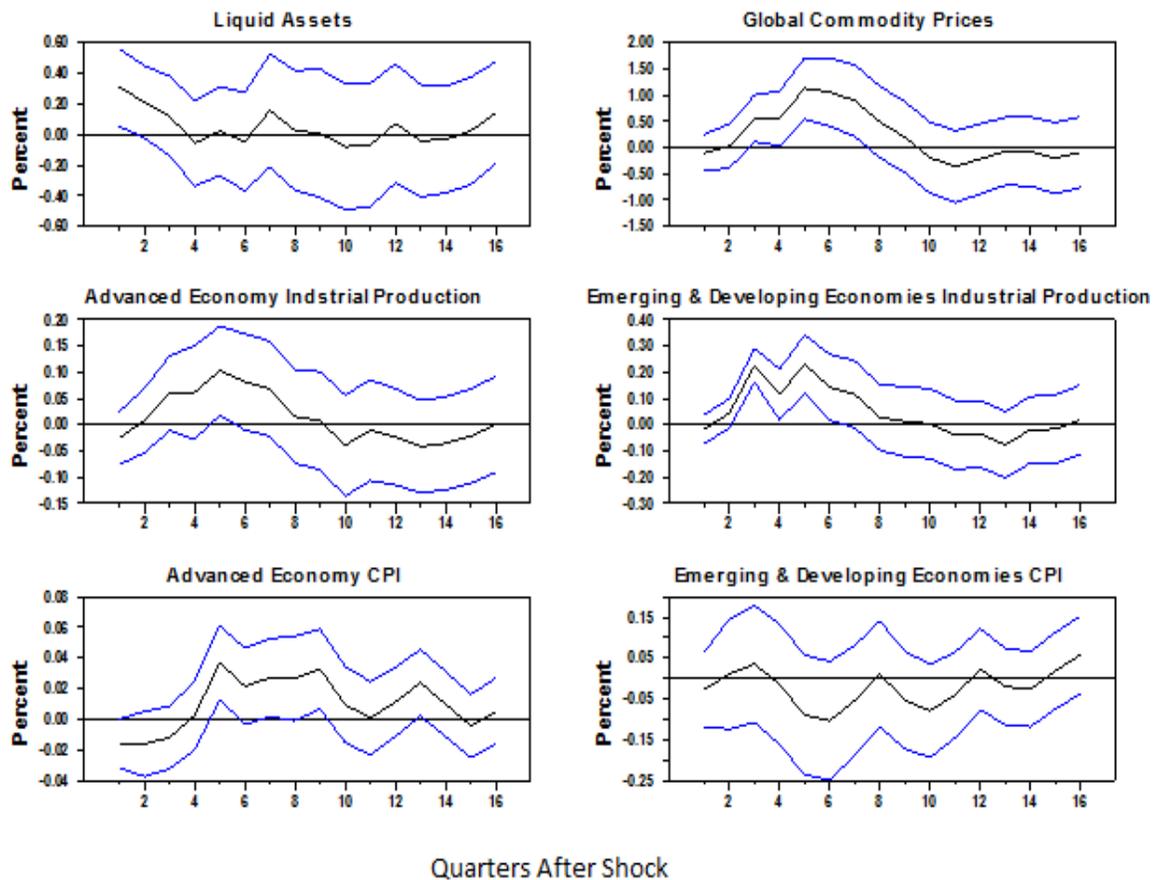(1 standard deviation)

Quarters After Shock

Figure 6.2 displays the results of the impulse response function.

The impulse response function results showed in Figure 6.2 provide some interesting insight to what would happen to each variable if the global economy experienced a positive safe asset shock, or an exogenous increase in the amount of liquid, safe assets. The impulse response functions shows what would happen after the amount of liquid assets is increased by 1 standard deviation, for 16 quarters after the initial shock. The blue lines are confidence interval bands that represent one standard deviation on the upper bound and lower bound of the regression results. We can only conclude that the results are statistically significant if the upper and lower bands are above or below zero. The most notable insights obtained from the model are the significant increases in the global commodity prices and industrial production in emerging economies for the first eight quarters after the initial shock. Emerging markets typically rely on oil and other commodities as the main driving force of their economy. These results demonstrate that in the case of a positive safe asset shock, the excess money demand of emerging markets would be satiated, leading to an increase in aggregate nominal expenditures, and a resolution to the problems and symptoms created by the safe asset shortage problem. The advanced economies industrial production also experienced a statistically significant increase in the 4th and 5th quarters after the initial shock, showing that the effects of the Triffin dilemma are no longer inhibiting the advanced economies because there are enough safe assets to satiate demand.

CHAPTER 7

CONCLUSION

Based on the findings of this study thus far, it is evident that the shortage of safe assets in the United States is having a significant effect on the economic recovery process. A full economic recovery that attains those levels of production and spending won't be possible until safe asset shortage problem is resolved.

Through my research, I found a clear connection between the United States' current account deficit and the shortage of safe assets. Even though the global imbalances problem was not dangerous because of an impending currency crisis, it has resulted in a Triffin dilemma as a result of the United States' role as a financial intermediary to the world. This dilemma has created a liquidity crisis, because the Great Recession and Eurozone crisis destroyed many assets that were considered safe. The shortage in safe assets has resulted in emerging markets being unable to satiate their demand, while the United States is put under pressure in its role as a banker to the world, because it can't turn around and invest funds in foreign assets. This has clearly had a significant effect on emerging economies and advanced economies industrial production, since the excess money demand that was created as a result of this shortage has prevented them from investing in capital and has suppressed global commodity prices, which staggers developing economies.

It is hard to point out a specific resolution to the safe assets shortage problem. As mentioned before, some believe that a revaluation of assets coupled with a period of strict inflation targeting would bring the situation under control, while others believe that a US Sovereign Wealth fund might create enough risk shielding that the United States can diversify its portfolio even further, allowing for a creation of safe assets by lowering their overall demand. Hopefully, in further research I could ascertain more potential, realistic solutions to this problem, as well as produce further conclusive results through the use of forecasting and econometrics.

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