An Analysis of World Reserve Currency Status on the Value of the U.S. Dollar

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AN ANALYSIS OF WORLD RESERVE CURRENCY STATUS ON THE VALUE OF THE U.S. DOLLAR

By

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A Thesis Submitted in Partial Fulfillment
Of the Requirements for the University Honors Program

Department of Economics
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The members of the Honors Thesis Committee appointed to examine the thesis of Jared Waltz find it satisfactory and recommend that it be accepted.

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ABSTRACT

An Analysis of World Reserve Currency Status on the Value of the U.S. Dollar

Jared Waltz

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In most nations, currencies are able to appreciate and depreciate in order to maintain a healthy balance of trade. These fluctuations prevent prolonged periods of growth or stagnation by changing the relative price of imports and exports. However, the U.S. Dollar is in a unique position as the world reserve currency. This status means, in simplified terms, that demand is strong and consistent for the Dollar regardless of economic conditions, potentially keeping its value above where it would naturally move to if allowed to fluctuate normally. This study seeks to analyze whether it is possible to demonstrate mathematically that the value of the Dollar has been affected by world reserve currency status by comparing it to other world currency values over time. The analysis will be conducted by estimating a model of uncovered interest rate parity using monthly data over the course of 11 years. The result, for several possible reasons, was that no such effect could be found.

KEYWORDS: Dollar, Currency, Reserve, Value
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CHAPTER ONE
INTRODUCTION

All throughout history, currency has played the center role in economic stability and growth. In order for non-barter transactions to take place on a large scale there must exist a valuable means of exchange that can also function as a store of value. While many nations and cultures developed their own currencies and banking systems over time, it became evident that some were more stable and reliable than others. Throughout different periods in history certain currencies gained such a reputation and status as to be called “world reserve currencies,” either by official denomination or circumstantial conditions.

The following chart shows the world reserve currencies for roughly the last 500 years, along with the events that marked transition from one currency to another.

<table>
<thead>
<tr>
<th>Global reserve currencies since 1450</th>
<th>Events During Transition Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>? ??</td>
</tr>
<tr>
<td>Britain</td>
<td>105 Years (1816-1920)</td>
</tr>
<tr>
<td>France</td>
<td>95 Years (1720-1815)</td>
</tr>
<tr>
<td>Netherlands</td>
<td>80 Years (1640-1720)</td>
</tr>
<tr>
<td>Spain</td>
<td>110 Years (1530-1640)</td>
</tr>
<tr>
<td>Portugal</td>
<td>80 Years (1450-1530)</td>
</tr>
</tbody>
</table>


It is no coincidence that the world reserve currency at each time period usually corresponds with the leading world power at that time. These respective nations had the
strongest economies and banking systems, and their currencies would have been the main means of exchange globally due to their colonial empires, ensuring that demand for said currency was strong and consistent and thus maintaining its value.

As is also noted on the chart, the transitions between global reserve currencies were often brought about by periods of great conflict and war, the most recent of which being the world wars which resulted in the downfall of the Pound and the rise of the Dollar. In a postwar world working toward recovery, and in the absence of the gold standard, a stable foundation was needed to peg the currencies of the world to.

The solution to this situation was the Bretton-Woods agreement, which pegged most of the world's currencies to the U.S. Dollar either first or secondhand. This arrangement became known by some as the “Dollar standard” and the Dollar, rather than gold, now served as the foundation and source of value for most of the world's currencies.

Bretton-Woods served its purpose until the mid-1970s when the war in Vietnam and excess printing of the Dollar destabilized the arrangement and led to its eventual collapse in 1973. From this point forward many nations chose to float their currencies and let their value be determined by the forces of supply and demand. The Dollar itself was now free to fluctuate as well, especially since the reason for Bretton-Woods demise was the general lack of faith in its value.

From this time to the present the Dollar has been free to fluctuate, but still considered the world's leading reserve currency and thus store of value. The question this paper seeks to answer is whether this status has caused the value of the Dollar to remain artificially high. If faith were not so strong in the Dollar and it were to sink to lower
levels, would this affect the United States balance of trade? For example, a strong dollar makes U.S. exports relatively more expensive to foreign buyers, and has likely contributed to the decline in U.S. manufacturing over the last 30 years. Would this have been the case with no world reserve currency status potentially leading to a weaker Dollar?

It seems logical that world reserve currency (WRC) status can have real and profound implications for currency value, and while all of these effects make sense in terms of macroeconomic theory, little to no research has been done to find a tangible and measurable effect that WRC status has on the Dollar. This study investigates whether world reserve currency status has a measurable impact on the value of the dollar, with the hypothesis being that such an effect should be both statistically and practically significant. In order to test for such an effect, a model will be constructed using a modification of the uncovered interest rate parity approximation.

Interest rate parity is a theory of international finance that, in simplified terms, states that investing in a foreign asset with foreign currency will yield the same return as investing in a domestic asset with domestic currency when the foreign currency is converted back to domestic at maturity. Since this means that exchange rates are an accurate predictor of interest rates, the theory serves as a suitable model to test for effects on both exchange rates and interest rates when operating under the assumption that it holds in the real world. The goal of this study is to measure an effect on the value of the Dollar, therefore interest rate parity serves as the ideal model to test for such an impact.
CHAPTER TWO
LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Much of the literature concerning the world reserve currency and its impact remains theoretical, with speculation about the Euro taking over the mantle after the Dollar being a common theme.¹ That said, the amount of works involving this topic is surprisingly small, so it is clear that there is more research to be done in this area.

Surprisingly, much of the material available is decades old and some even predates the collapse of Bretton-Woods. In 1964, Robert Aliber wrote about The Costs and Benefits of the U.S. Role as a Reserve Currency Country. In his article, the benefits included increased purchasing power for American consumers from a strong Dollar, and flexibility for the government in issuing debt since demand for treasury securities is high due to their perceived stability. The downsides in the article consist of the burden of supplying Dollar reserves to other countries, the inability of the Dollar to devalue in recession conditions, and the constraint on monetary policy brought about from being so globally significant.² It is interesting to note that these costs and benefits still align with macroeconomic and international finance teachings roughly 50 years later, long after the collapse of Bretton-Woods.


Two decades after Aliber, Frederick Heldring believed that U.S. dominance was in decline along with the Dollar and that another currency or a new world currency would take its place. He argued that this was a positive outcome for the U.S. as it would ease the burden of global monetary policy and a perpetually strong Dollar and allow the country to experience the trade benefits of a fluctuating currency. While many of the predictions he made have not come true, it’s clear that he, like Aliber, believed that world reserve currency status was having a significant, even harmful impact on the value of the Dollar.

Heldring was not alone in perceiving the erosion of economic fundamentals that supported the Dollar as world reserve currency. However, others argued that as long as certain conditions prevailed, namely ease of convertibility, efficiency and depth of financial markets, and use in the majority of global trade, the Dollar would remain the king until a suitable challenger arose. In hindsight, this outlook was correct as many of these conditions still hold over 30 years later, but some today see the Euro as the challenger these economists alluded to and believe once again that the reign of the Dollar may be coming to an end.

In terms of more recent literature, Robert McCauley examines the privileges of the Dollar in a 2015 journal article which included the fact that the U.S. can settle its current account deficits in its own currency, the ability of the U.S. treasury to borrow

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cheaply, and the fact that the U.S. does not need to settle its Dollar liabilities with some other asset, among others. However, the conclusion it reaches is that the advantages resulting from this privilege, while tangible, are not large or exclusive to the Dollar.\(^5\)

Although there is clearly some disagreement regarding the impact world reserve currency status has on the Dollar, at present time no attempt can be found in regard to measuring this effect specifically. However, various attempts have been made to model other currency effects.

In 1977 Alec K. Chrystal developed a demand model for international currency. This model used trade balances to determine demand for a wide range of currencies in the international market in an attempt to explain why consumers would hold currencies other than that of their own nation, and how this behavior impacted overall demand for these currencies.\(^6\)

Several years later Paul Krugman constructed a three way model of exchange rates to try and determine the effect that the importance of one currency can have on the way payments are conducted between nations. The result was that such a condition made it more likely that the other nations would make payments to each other indirectly via the preferential currency as it became the international means of exchange. Another interesting finding of this model was that the nation with favored currency status was able to retain its status even after the conditions that had brought it about no longer persisted, and that such a condition was self-reinforcing and only able to be changed by sudden and

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dramatic shocks to the way payments are made.\textsuperscript{7} This result is supported by the fact that world reserve currencies commonly changed at times of great conflict in history.

Perhaps the closest study to what is being conducted here was done in 2013, when an attempt was made to measure the risk conveyed by “key currency status” on the Dollar. This was done so using a complex model of macroeconomic factors and U.S. bond performance. Interestingly enough, the conclusion reached was that risk associated with being the key currency provider was not significant in practical terms.\textsuperscript{8}

So, it remains to be seen whether the effect of world reserve currency status on currency value can be measured in a model. However, based on attempts to measure other effects of world reserve currency status which did not produce results, it is possible such an effect may not exist or simply may not be measurable. The foundation of the model conducted here revolved around the interest rate parity condition. This meant that a review of the studies conducted concerning the integrity of covered and uncovered interest rate parity was necessary.

Interest rate parity is a theory of exchange rates which states that investing in a foreign bond or asset will yield the same return as investing in a domestic one, once the foreign currency is converted back to domestic currency at the spot rate at the end of the period (uncovered or UIP) or locked in at the forward rate from the start (covered or CIP). Such a condition prevents arbitrage opportunities and is in line with the efficient markets hypothesis.


CIP garners the bulk of academic support. Research papers using high frequency data from the London exchange found that it held on both short and long time horizons\textsuperscript{9}, and that the only time its credibility came into question was at long time horizons in turbulent economic conditions.\textsuperscript{10} These fairly definitive results make CIP the ideal foundation for an econometric model.

Tests done as to the validity of UIP, on the other hand, have found that it does not hold in the short or long term\textsuperscript{11}, and have also revealed a counter intuitive “overshooting” problem. The overshooting problem consists of the fact that exchange rates and interest rates often move in the opposite direction of what is predicted by UIP. One article ran a model of exchange rate determination that featured signal extraction by an ambiguity averse agent uncertain about signal precision. The results were that when trying to estimate the time hidden variable, rational investors acted in such a manner that poorly estimated it and caused increased demand leading to the overshooting problem.\textsuperscript{12}

CIP would be the obvious choice between the two to serve as the base of a linear regression model, but UIP was the condition that had to be used, as is explained in the next section.


CHAPTER THREE
THE MODEL AND ASSUMPTIONS

In order to test for a measurable impact of world reserve currency status on the value of the Dollar, this paper will use a linear regression model based on the UIP approximation equation. The original goal was to use the CIP condition since it garners the bulk of academic support compared to uncovered interest rate parity. However, during the research process it became evident that historical data of forward rates was either unavailable altogether or simply out of reach, and, as such, the model had to be changed to the uncovered interest rate parity condition, followed by some changes in the underlying assumptions.

In order to run the regression with the Euro interest rate as the single dependent variable, the UIP approximation will be used rather than the simple UIP equation. The approximation is found as follows.

. Start with the equation for UIP, \( i \) represents the interest rate for the Euro and the Dollar as denoted by the subscript, and \( \frac{\Delta E_{\text{e/s}}}{E_{\text{e/s}}} \) represents the expected depreciation of the currency over the time period.

\[
(1 + i_{\text{e}}) = (1 + i_{\text{s}}) \frac{\Delta E_{\text{e/s}}}{E_{\text{e/s}}}
\]
\[
\frac{\Delta E_{e/s}}{E_{e/s}} = \left( 1 + \frac{\Delta E_{e/s}}{E_{e/s}} \right)
\]

Therefore:

\[
(1 + i_e) = (1 + i_s) \left( 1 + \frac{\Delta E_{e/s}}{E_{e/s}} \right) = 1 + i_s + \frac{\Delta E_{e/s}}{E_{e/s}} + \left[ i_s \frac{\Delta E_{e/s}}{E_{e/s}} \right]
\]

The final term in brackets, consisting of the Dollar interest rate and expected depreciation, is so small that it may be neglected in the approximation. When the rest is simplified, the result is the UIP approximation:

\[
i_e = i_s + \frac{\Delta E_{e/s}}{E_{e/s}}
\]

The UIP approximation operates on the same principle as its predecessor in that holding domestic currency assets will yield the same return as holding foreign currency assets and converting back at the future time, making an investor indifferent between the two.\(^\text{13}\) This equation is a suitable foundation for a linear regression as the dependent variable is the Euro interest rate, with the foreign interest rate and expected depreciation making up the first two variables.

The model for this paper will be a modified version of the UIP approximation and use four major world currencies: the Euro, Yen, Pound and the Dollar. The Euro will be

the currency each of the others is set against and the Euro interest rate is the one the model predicts using the exchange rates of the other currencies. To account for other variations in the data which could affect the UIP condition, government debt of each nation will be accounted for in the form of their Debt/GDP ratio over time. This information is important as it can have substantial impact on the direction of capital flows a country experiences.

The right side of the model will consist of betas for the foreign interest rate, historical exchange rate over time, debt to GDP ratios over time, and finally a dummy variable for the United States. The goal is to find the coefficient on the U.S. dummy variable, determine if it is statistically significant, and interpret its results. The hypothesis of this study is that the coefficient will be positive and significant due to increased demand for the Dollar causing a higher interest rate. The model will look like the following:

\[ i_€ = \beta_0 + \beta_1(\text{Interest rate}) + \beta_2(\text{Expected Depreciation}) + \beta_3(\text{Debt/GDP}) + \beta_4(\text{USA dum}) + \mu_{i,t} \]

CHAPTER FOUR

THE DATA

The time frame of this model is the years 2007-2017, 11 in total. The data was taken in monthly increments for each of the three countries on the right side of the equation, as well as the necessary information for the Euro. The Euro was chosen for
currency of comparison for several reasons. Aside from the Dollar, the Euro is the most prominent currency on earth, and there have been many speculations of it one day taking the world reserve currency mantle. This economic prominence makes it a suitable benchmark to compare other currencies to, and to determine if there is something special about its relationship with the Dollar. Another reason for using the Euro as the base currency of the model was that it negated the task of finding Debt/GDP for the Euro zone, a task which would have been difficult and time consuming but with this model ultimately proved unnecessary.

The exchange rate data was taken from a foreign exchange archive and has the units of Euros per unit of foreign currency.\footnote{OFX. 2017. \textit{Historical Exchange Rates}. Accessed February 11, 2018. \url{https://www.ofx.com/en-us/forex-news/historical-exchange-rates/}.} To get the expected depreciation necessary to satisfy the UIP condition, each period is subtracted from its predecessor and then divided by the base period. This resulted in the omitting of 3 values in the data set at the beginning, one for each country, but given the size of the data set this is of little consequence. The expected depreciation values are what is used in the actual regression.

Debt to GDP presented a problem due to the fact that data was only available on an annual basis for each country.\footnote{International Monetary Fund. 2017. \textit{General government gross debt (% of GDP)}. April 24. Accessed March 3, 2018. \url{http://www.google.com/publicdata/explore?ds=k3s92bru78li6_#!ctype=l&strail=false&bcs=d&nselm=h&met_y=ggxwdg_ngdp&scale_y=lin&ind_y=false&rdim=world&idim=world:Earth&idim=country:JP:GB:US&ifdim=world&hl=en_US&dl=en_US&ind=false}. The solution was to use the same annual value for all 12 months of each year. This could result in some abrupt changes and potentially bias the results, but in the end no smoothing was done given that the values did not change drastically year to year. A bigger problem with this data is that the ranking of the

\begin{thebibliography}{99}
\end{thebibliography}
countries based on Debt/GDP was the same throughout the entire data set, with Japan having the highest, followed by the United States and then the UK. The result was serial correlation, which will be explained more in the results.

The final data point is the risk free rate for each country, which satisfies the UIP condition. This information was taken from an economic data archive. The summary statistics for the various data points are shown in the following table.

Table 1

<table>
<thead>
<tr>
<th>Exchange Rate</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>0.63</td>
<td>0.95</td>
<td>0.7804545</td>
</tr>
<tr>
<td>UK</td>
<td>1.09</td>
<td>1.51</td>
<td>1.2320455</td>
</tr>
<tr>
<td>Japan</td>
<td>0.005944</td>
<td>0.010278</td>
<td>0.0078608</td>
</tr>
<tr>
<td>Euro</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interest Rate</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>0.25</td>
<td>5.25</td>
<td>0.9293893</td>
</tr>
<tr>
<td>UK</td>
<td>0.25</td>
<td>5.75</td>
<td>1.2900763</td>
</tr>
<tr>
<td>Japan</td>
<td>-0.1</td>
<td>0.5</td>
<td>0.0816794</td>
</tr>
<tr>
<td>Euro</td>
<td>0</td>
<td>4.25</td>
<td>1.1731061</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Debt/GDP</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>64.01</td>
<td>105.06</td>
<td>94.920534</td>
</tr>
<tr>
<td>UK</td>
<td>43.63</td>
<td>91.66</td>
<td>78.048931</td>
</tr>
<tr>
<td>Japan</td>
<td>183.01</td>
<td>248.58</td>
<td>227.4558</td>
</tr>
<tr>
<td>Euro</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(All exchange rates are in Euros per unit of foreign currency)

---

CHAPTER FIVE

THE RESULTS

The first estimator used was an ordered least squares based on the modified UIP equation mentioned earlier, with the dependent variable being the Euro interest rate. The results are displayed in the following table:

Table 2

<table>
<thead>
<tr>
<th>Model</th>
<th>Constant</th>
<th>Interest Rate</th>
<th>Exp Dep</th>
<th>Debt/ GDP</th>
<th>USA</th>
<th>(Japan)</th>
<th>(Time)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Run</strong></td>
<td>( \beta_0 )</td>
<td>( \beta_1 )</td>
<td>( \beta_2 )</td>
<td>( \beta_3 )</td>
<td>( \beta_4 )</td>
<td>( \beta_5 )</td>
<td>( \beta_6 )</td>
</tr>
<tr>
<td></td>
<td>0.219</td>
<td>0.746***</td>
<td>5.239*</td>
<td>0.003**</td>
<td>-0.027</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>(1.37)</td>
<td>(18.82)</td>
<td>(2.79)</td>
<td>(3.18)</td>
<td>(-0.24)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>R^2 = 0.51 F = 101.46 P = 0.000</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Second Run</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Robust)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.509***</td>
<td>0.294***</td>
<td>1.884</td>
<td>0.041***</td>
<td>0.786***</td>
<td>6.419***</td>
<td>-0.008***</td>
</tr>
<tr>
<td></td>
<td>(20.86)</td>
<td>(12.78)</td>
<td>(1.84)</td>
<td>(-13.56)</td>
<td>(11.66)</td>
<td>(13.91)</td>
<td>(-9.15)</td>
</tr>
<tr>
<td><strong>R^2 = 0.90 F = 524.92 P = 0.000</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*10% Significance (T statistics in parentheses) # Observations = 393
**5% Significance
***1% Significance

All of the coefficients are statistically significant with the exception of the dummy variable for the U.S. and the \( R^2 \) was fairly strong at 51.12%. While the \( R^2 \) is not the sole indicator of the quality of a regression, it does demonstrate that a substantial amount of
the variation in Euro interest rate is being explained by the various coefficients. When tested for serial correlation it was found to be present.

Serial correlation occurs when the error terms are correlated across time periods, and can have an impact on the standard errors of the results. The source of the serial correlation in this model is likely the fact that the Debt/GDP values only change annually and that these values are consistently ranked across time. This will be addressed more later on.

In order to account for potential omitted variable bias, the model was also run as a fixed effects regression, which essentially creates a dummy variable for each data point. The results did not have a substantial effect on any of the coefficients or their significance. However, running a fixed effects regression omits any previous dummy variables, and since the goal of the model is to find the coefficient and significance of the dummy variable, the fixed effects regression could not yield any useful results.

To try and capture the benefits of the fixed effects regression while still attaining a useful results, a second dummy was created for the country of Japan. In addition, a time coefficient was created to attempt to counter the effects of the serial correlation and insure that the regression is not spurious. Finally, the regression was run using robust standard errors to counter any heteroscedasticity that may be present. The revised model is displayed as follows and the results are shown in the second row of Table 2.

\[ i_e = \beta_0 + \beta_1(\text{Interest rate}) + \beta_2(\text{Expected Depreciation}) + \beta_3(\text{Debt/GDP}) + \]
\[ + \beta_4(\text{USAdum}) + \beta_5(\text{JapanDum}) + \beta_6(\text{Time}) + \mu_{i,t} \]
All of the variables in this regression are significant, and when run with robust standard errors to account for heteroscedasticity they remain so with the exception of expected depreciation which falls just below the threshold. The most interesting outcome is the coefficient on the Japan dummy variable, which is both large and significant. If the assumptions going into this model were true, the coefficient on Japan should be insignificant or at the very least be smaller than the dummy for the United States.

When interpreting the dummy variable for Japan, the coefficient size is alarmingly large. According to the model, Japan has up to a six percentage point difference with the Euro interest rate, such a value seems too large to be realistic. However, when looking at the summary statistics there is a difference of more than one percentage point between the average Euro and Japan interest rates, with the difference between the two interest rates peaking at nearly five percentage points at various points throughout the data set. With this considerable differential and a reasonable margin of error within the model, the coefficient becomes much more believable.

It would be interesting to also include a dummy variable for the UK, but the nature of dummy variables makes this impossible. While the dummy variable for the U.S. did become significant in both statistical and practical terms, it was also overshadowed by the Japanese dummy variable. Including the dummy variable for Japan helps to alleviate the concerns of serial correlation, since its inclusion did not affect the significance of the other variables. However, it causes many problems for the hypothesis of this paper.

The inclusion of the time trend demonstrates that the model is not spurious, an important consideration when working with panel data. While the time variable was
statistically significant, its practical significance was very small and it did not change the coefficients or significance of the other variables in any relevant ways.

CHAPTER SIX
CONCLUSIONS

The overall hypothesis of this project is that the U.S. Dollar is affected by its world reserve currency status, and that this effect will manifest itself in the form of a higher interest rate from increased demand. Under this assumption, running a model of interest rate parity with a dummy variable for the United States should yield a statistically and practically significant result.

The results overall do not support this theory. The first iteration of the model failed to produce a coefficient on the dummy that was significant in statistical or practical terms. Only when adding a second dummy for Japan does the coefficient for the U.S. begin to matter, and once it did it was largely overshadowed by the coefficient for Japan, in direct violation of the hypothesis.

There are several possible reasons for the lack of the expected outcome, the first being problems with the model. Throughout the tests each version was plagued by serial correlation, likely resulting from the consistent ranking of Debt/GDP for each of the countries. The solution to this problem was to create a second dummy variable for Japan, but it is possible that this did not completely remedy the issue.
The most likely reason for the results is the uncovered interest parity theory itself, which consistently fails to hold in academic research, and sometimes has the opposite of its predicted effect. As mentioned before, the original plan was to use the model under covered interest rate parity which has been demonstrated to hold consistently and would be a much more solid foundation to conduct a test such as this. The absence of forward rate data makes this impossible and quite possibly compromises the integrity of the entire experiment.

Another problem is the lack of a *ceteris paribus* condition. This issue is far from exclusive to the model used here and has plagued macroeconomic experiments as long as they have been conducted since each country is in a unique economic and political position in a complex global economy. Nevertheless, there are countless other factors at play in the world economy that could impact the results. These factors cannot be accounted for simply due to their complexity and volume, but it is possible that they simply wash away any impact that world reserve currency status may have on the Dollar. It is also important to note that in this model it is impossible to differentiate between the general characteristics of the U.S. economy and the effect of world reserve currency status.

If a unique and significant result was found, interpreting its meaning could complicate things as well. On one hand, the initial hypothesis stated that the coefficient should be positive and significant due to increased demand, on the other hand, if the Dollar is seen as the standard of safety and stability these characteristics should be reflected in a lower interest rate. It is possible that these effects may cancel each other out, but an argument could be made that both reflect world reserve currency status.
A better version of this model would involve using the CIP condition with historical forward rate data, and also using accurate monthly Debt/GDP data rather than the annual value. Another useful change might involve using the growth in rates in Debt/GDP for each country as a better predictor of capital flows and the interest rate. It is entirely possible that such a model would yield completely different results than those found here, and would do so on much more solid footing.

However, there is another potential explanation for the lack of a significant result, and that is simply that one does not exist. While logic and economic theory would support the idea that world reserve currency status affects how that currency performs, this may not be the case in reality.

As was mentioned in the literature review, studies conducted on the privileges of the Dollar have found that while these benefits do exist, they are not large or unique to the Dollar. In addition, an analysis that sought to measure the risk of the Dollar holding key currency status failed to produce a significant result. The results found here are in line with these outcomes and show that what research has been done in this area points in roughly the same direction.

With the present information and conditions it is not possible to give an answer with confidence, the lack of *ceteris paribus* condition also makes it difficult to find a tangible result as any measurable effect could simply be melted away by a myriad of global economic factors over this data set and potentially any other. The question still

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17 McCauley, Robert N. “Does the US Dollar confer exorbitant privilege?”

18 Canzoneri, Matthew., Cumby, Robert., Diba, Behzad., López-Salido, David. “Key currency status: An exorbitant privilege and an extraordinary risk”
remains, however, of what the results would be if a more accurate version of the model could be tested.


