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**UNITED STATES PUBLIC DEBT:
IMPLICATIONS FOR NATIONAL SECURITY
IN A COMPETITIVE ENVIRONMENT**

by

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March 2022

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The United States public debt has reached a value greater than the entire gross domestic product of the country. In addition, China owns a substantial portion of this debt. As China and the United States become increasingly competitive, what implications does the public debt have for U.S. security? This thesis uses a range of qualitative and quantitative methods to uncover the degree to which public debt affects U.S. security efforts. The results show that the legislative response to public debt negatively affects funding for U.S. security efforts, that the U.S. dollar is an important mechanism in maintaining stable debt dynamics, and that debt adds to the interdependence of the U.S. and Chinese economies, which can shape national security decision-making. Debt has strategic implications for U.S. security interests. However, the United States has not sufficiently incorporated debt into its strategic policy. The risk of negative consequences increases by failing to understand the unique dynamics of U.S. debt and failing to ensure the debt serves desired ends.

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UNITED STATES PUBLIC DEBT: IMPLICATIONS FOR NATIONAL SECURITY IN A COMPETITIVE ENVIRONMENT

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ABSTRACT

The United States public debt has reached a value greater than the entire gross domestic product of the country. In addition, China owns a substantial portion of this debt. As China and the United States become increasingly competitive, what implications does the public debt have for U.S. security? This thesis uses a range of qualitative and quantitative methods to uncover the degree to which public debt affects U.S. security efforts. The results show that the legislative response to public debt negatively affects funding for U.S. security efforts, that the U.S. dollar is an important mechanism in maintaining stable debt dynamics, and that debt adds to the interdependence of the U.S. and Chinese economies, which can shape national security decision-making. Debt has strategic implications for U.S. security interests. However, the United States has not sufficiently incorporated debt into its strategic policy. The risk of negative consequences increases by failing to understand the unique dynamics of U.S. debt and failing to ensure the debt serves desired ends.

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LIST OF ACRONYMS AND ABBREVIATIONS

AIIB	Asian Infrastructure Investment Bank
BBA	Bipartisan Budget Act
BCA	Budget Control Act of 2011
BIS	Bank of International Settlements
BRI	Belt and Road Initiative
CNY	Chinese Yuan
FAS	Federation of American Scientists
FED	United States Federal Reserve
FOREX	Foreign Exchange Market
GBP	British Pound Sterling
GDP	Gross Domestic Product
HASC	United States House Armed Services Committee
HBC	United States House Budgetary Committee
IMF	International Monetary Fund
NSS	United States National Security Strategy
PRC	People's Republic of China
RMB	Chinese Renminbi
USD	United States Dollar

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I. INTRODUCTION

A. QUESTION

A state with a stronger economy would seemingly hold a strategic advantage in ensuring its security because it can invest in material assets and use its economic power to extend its influence abroad. However, strong economic performance can yield negative strategic consequences as well. A strong economy requires capital inflows to grow and sustain performance, and the capital demand often exceeds what domestic sources can or is willing to supply. Since the mid-1980s, the United States has looked to foreign creditors to make up for domestic capital shortfalls and sustain its economic performance. As foreign-owned debt grows, the U.S. might see a reduction in its ability to acquire superior military equipment or foreign creditors might attempt to leverage their debt assets to influence security policy decisions. Foreign creditors are not able to foreclose on the country itself but may gain influence over U.S. interests abroad. This thesis investigates if and how a large national debt affects U.S. national security.

B. SIGNIFICANCE

The return of great power competition has produced a unique situation between two global powers. The United States is one of the top debtor nations in the world and a significant portion of that debt is held by a rising competitor—China. It is difficult to ignore this important factor that could potentially aggravate or temper competitive spirits between the two nations. U.S. national security strategies label China as a leading threat to national security.[1] Yet, China continues to fund American economic consumption by purchasing U.S. debt. As global competition increases, understanding the implications of a superpower debtor-creditor relationship is salient to the security interests of both nations.

[1] White House, *National Security Strategy of the United States of America* (Washington, DC: White House, 2017), http://nssarchive.us/national-security-strategy-2017/; White House, *Interim National Security Strategic Guidance* (Washington, DC: White House, 2021), https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/03/interim-national-security-strategic-guidance/.

National debate over debt concerns is not new in American domestic politics. They have become a standard part of political parties' policy platforms and strategic communications. Often these debates label public debt as either inconsequential or dangerous. However, much of the political rhetoric applies a personal mortgage framework to the government's debts. Individuals will undeniably face harsh personal consequences if they accumulate large debts without a means of resolving them. However, in international politics consequences of debt are not limited to the government or politicians. If foreign-held debt can be exploited by rivals, it could place the whole nation's interests at risk.

This thesis considers both the political and economic implications of debt for national security. First, debt could negatively affect U.S. security by reducing its economic capacity. Large debts may threaten the U.S. currency's status and available funds for defense. Both outcomes could limit the United States' capacity to pursue its national security interests. Second, debt could impact the United States' agency to freely pursue desired security initiatives. From an external perspective, Chinese debt holdings may enable coercive actions to leverage favorable U.S. policy concessions. Alternatively, U.S. debts might affect domestic resolve to act aggressively toward China. These examples are only a sample, and further inquiry is required to test their significance. In the context of great power competitors, it is worth asking how debt relations impact U.S. security and what policy measures might counteract any undesirable effects of U.S. foreign debt.

C. SUMMARY OF FINDINGS

This thesis yields several important findings. First, and most salient to the research question, the public debt does affect national security. Debt concerns have fostered legislation that negatively impacts the ability of the United States to fund its defense. Second, the United States Dollar (USD) has insulated the United States from the negative consequences often associated with a large public debt. The USD is the global reserve currency, providing the United States unparalleled flexibility in its debt policy. Third, debt contributes to a significant economic disincentive for both China and the United States to engage in aggressive actions that might endanger mutually beneficial economic relations.

Debt does not rule out a conflict between the two nations but increases the cost to both sides. Lastly, debt shows a blind spot in U.S. strategic thinking. Debt represents a sum equal to U.S. GDP but is not incorporated into U.S. strategic thinking. Economic prosperity is a catch-all term used in U.S. strategic publications but does not adequately address the distinct nature of U.S. public debt. Ignoring U.S. debt in a strategic context also speaks to a larger failure to integrate economic power into U.S. strategic policy.

D. LITERATURE REVIEW

The literature analyzing the relationship between U.S. national debt and national security identifies four possible outcomes: two negative and two positive. First, on the negative side, the national debt can negatively impact available funding for the national defense apparatus. Second, foreign creditors may gain political advantage over the United States; Drezner captures this sentiment best by labeling national debt as an element of statecraft.[2] Third, on the positive side, U.S. debt creates substantial inflows of economic capital that enable the U.S. to fund military and economic initiatives. Fourth, debt implies that foreign creditors are binding themselves to U.S. economic prosperity, generating external insurance for U.S. interests abroad. The literature also identifies two key variables that mediate whether debt benefits or harms national security: the value of U.S. currency and the economic health of the United States. Although economic health assuredly encompasses currency values, the literature separates currency value as its own variable. This review first addresses the literature's discussion of the potential impacts of debt on national security and then discuss the underlying variables driving them.

1. Impacts of National Debt

First, a large national debt could negatively affect the budget for defense and security initiatives. Blank most directly addresses this outcome. He insists that as U.S. debt grows, military budgets will exhibit an inverse relationship and shrink.[3] China's military

[2] Daniel W. Drezner, "Bad Debts: Assessing China's Financial Influence in Great Power Politics," *International Security* 34, no. 2 (2009): 8, JSTOR.

[3] Martin L. Blank, "The Impact of National Debt on U.S. National Security" (Carlisle, PA: United States Army War College, May 29, 2011), https://apps.dtic.mil/sti/citations/ADA564995.

buildup to peer competitor status would require the U.S. to increase budgetary investment to preserve military superiority. In the context of great power competition, reduced fiscal flexibility would limit the ability of the U.S. to outpace its closest competitor. Blank contends that aggregated debt obligations would reduce defense funds jeopardizing U.S. security interests abroad.[4] While this argument logically makes sense, he assumes that increased government debt inherently reduces government spending capacity and that defense budgets will follow overall fluctuations in government spending. However, a rising Chinese threat may lead to higher portions of federal funding allocated for defense, even if overall government spending declined. His assumptions are not empirically supported only presented as a logical outcome and therefore require further study.

A second negative effect could come from foreign creditors attempting to employ debt as a means of political coercion. Drezner puts forward two points regarding the use of debt in statecraft.[5] First, he proposes that creditors enjoy increased autonomy as debt reduces any foreign influence in their affairs. He then adds that while debt increases autonomy of the creditor it does not reduce the autonomy of the debtor nation. As a creditor of the U.S., China might enjoy increased political latitude, but it cannot exercise control over the U.S. response. However, Drezner acknowledges that the United States' military and economic strength make it a unique case.[6] Smaller or weaker states may be less resistant to debt leverage affecting their policy positions. A direct Chinese effect on U.S. political mobility appears to be unlikely. However, U.S. debt to China may permit China to act more freely abroad and may enable it to gain a strategic advantage through the coercion of weaker indebted states.

On the positive side, debt could enhance national security through an inflow of capital to be used as fuel for the U.S. economy. Bernanke emphasizes national debt as a normal condition of the U.S. economy and not a sign of weakness or decline.[7] Mann adds

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[4] Blank, 1–2.

[5] Drezner, "Bad Debts," 9–10.

[6] Drezner, 10.

[7] Ben S. Bernanke, "The Global Saving Glut and the U.S. Current Account Deficit," March 10, 2005, https://www.federalreserve.gov/boarddocs/speeches/2005/200503102/default.htm.

to Bernanke's point, identifying U.S. military power as a significant factor in attracting foreign investment.[8] He challenges Blank's argument by reversing the causal arrow; a strong military promotes a large national debt. U.S. defense spending projects both stability and security abroad, increasing foreign demand for U.S. dollar assets, reinforcing a positive relationship between debt and security. China purchases U.S. debt because it is a secure investment, not as a coercive tool. A strong military promotes U.S. economic stability fostering foreign confidence in U.S. assets. U.S. debt is therefore a consequence of its defense capabilities and not the cause for them.

Lastly, debt can also have positive impacts on national security because it ties the fate of the creditor to that of the debtor. Mead and Morgan both contend that foreign-held U.S. debt gives creditors a stake in the U.S. economy, investing foreign interests in its success.[9] Mead labels U.S. debt as "sticky" because debt ties foreign economic fates to the success of the U.S. economy.[10] The increased number of stakeholders in the U.S. economy reduces the prospect of debt weaponization because creditors would not want to sacrifice the value of their debt assets. Norrlof adds that U.S. debt is not bound to a static currency value.[11] A downturn in the U.S. economy would not only place debt payments at risk but, through a reduction in currency values, would decrease the real value of issued debt obligations. Holding foreign credit creates significant incentives for a country to protect or at least not intentionally disrupt U.S. economic security. However, Mead cautions that current international preferences for investment may shift if equally secure alternatives emerge. China could compete with the U.S. for foreign investment reducing the security advantages realized from the current system.

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[8] Michael Mann, "The First Failed Empire of the 21st Century," *Review of International Studies* 30, no. 4 (October 2004): 635–36, JSTOR.

[9] Walter Russell Mead, "America's Sticky Power," *Foreign Policy*, no. 141 (March 2004): 46–53, https://doi.org/10.2307/4147548; Iwan Morgan, "The Indebted Empire: America's Current-Account Deficit Problem," *International Politics* 45, no. 1 (January 2008): 92–112, https://doi.org/10.1057/palgrave.ip.8800147.

[10] Mead, "America's Sticky Power," 48.

[11] Carla Norrlof, "Dollar Hegemony: A Power Analysis," *Review of International Political Economy* 21, no. 5 (September 3, 2014): 1052, https://doi.org/10.1080/09692290.2014.895773.

2. When Does Debt Have Negative vs. Positive Effects?

The likelihood of debt yielding positive or negative national security outcomes depends on two conditions. First, the United States dollar is the global reserve currency. The dollars global importance creates a unique dynamic between debt and national security. Norrlof states that the U.S. dollar is vital to global economic prosperity because it is the primary mechanism for exchange, a common unit for accounting, and a safe place to store value.[12] These three functions position the U.S. monetary system in the middle of global economic interactions. The global acceptance of the dollar keeps U.S. debt assets in high demand, providing continuous foreign capital for defense spending.

Conversely, U.S. military strength helps to guarantee the dollar's dominant global position.[13] A strong military reinforces global confidence in the U.S. dollar. Debt, therefore, becomes more benign if it is used to maintain superior military capabilities, ensuring the continued status of the U.S. dollar.

However, the dollar has not always been the world's currency and under the weight of increasing national debt, questions might arise over the long-term viability of the dollar. Posen states that U.S. currency decline would be "induced by failures of U.S. political leadership rather than…based on purely economic development."[14] Global preferences may then shift toward another currency. Debt levels would then have an increased likelihood of bringing about a lower currency value, which, in turn, could lead to military decline. Viotti anticipates that debt will reduce U.S. defense purchasing power yielding less capable military forces.[15]

As Chinese military and economic power grows, the yuan may provide a viable alternative to the U.S. dollar. Should this occur, debt could limit U.S. flexibility to maintain

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[12] Norrlof, 1045.

[13] Norrlof, 1047.

[14] Adam Posen, "Why the Euro Will Not Rival the Dollar," *International Finance* 11, no. 1 (May 2008): 76, http://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1468-2362.2008.00217.x.

[15] Paul Viotti, *The Dollar and National Security: The Monetary Component of Hard Power* (Redwood City, UNITED STATES: Stanford University Press, 2014), 156–57, http://ebookcentral.proquest.com/lib/ebook-nps/detail.action?docID=1728034.

its military advantage in a competitive currency environment. Lower currency values will assuredly lower the purchasing power of federal budgets but adjustments to allocated funds and efficient capability priorities can still yield effective security institutions. Ultimately, however, Norrlof is skeptical that unitary actors could "mobilize power capabilities that would enable them to exercise currency influence."[16]

The second condition that determines the relationship between debt and national security is the United States' economic health. Mann, Norrlof, and Posen emphasize a strong connection between U.S. military and economic powers.[17] Productive uses of foreign capital directly advance U.S. economic interests and indirectly benefit the economy by funding strong defense institutions. Debt can further U.S. security through economic investment, reinforcing military strength, and increasing economic interdependence.

However, Bernanke, Warnock, and Summers warn that debt usage is increasingly funding consumption over investment.[18] They contend that national debt becomes dangerous when short-cited consumption yields lower returns. Blackford provides a more optimistic Keynesian perspective that national debt is necessary fuel for economic growth, but even his optimistic outlook cannot reconcile the dangers of overconsumption as misapplication of foreign funding will risk long-term U.S. economic success.[19]

In addition, debt can undermine overall economic strength. The U.S. economy must manage the costs of servicing an increasing national debt. Feldstein argues, "the most serious risk to the U.S. economy is the explosive growth of the national debt."[20] He expects that rising interest obligations will reduce fiscal flexibility yielding both lower economic

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16 Norrlof, "Dollar Hegemony," 1045.

17 Mann, "The First Failed Empire of the 21st Century"; Norrlof, "Dollar Hegemony"; Posen, "Why the Euro Will Not Rival the Dollar."

18 Bernanke, "The Global Savings Glut"; Francis E Warnock, "How Dangerous Is U.S. Government Debt? The Risks of a Sudden Spike in U.S. Interest Rates" (New York, NY: Council on Foreign Relations, 2010), https://ciaotest.cc.columbia.edu/wps/cfr/0019179/index.html; Lawrence H. Summers, "America Overdrawn," Foreign Policy, accessed August 15, 2021, https://foreignpolicy.com/2009/10/27/america-overdrawn/.

19 George H. Blackford, "Keynes on Economic Stagnation and Debt," *International Journal of Political Economy* 50, no. 1 (February 23, 2021): 28–43, https://doi.org/10.1080/08911916.2021.1894826.

20 Martin Feldstein, "Dealing with Long-Term Deficits," *American Economic Review* 106, no. 5 (May 1, 2016): 1, https://doi.org/10.1257/aer.p20161004.

performance and defense response in a crisis. Interest obligations will aggregate, compounding any negative effects on U.S. security. Servicing obligations siphon government funds yielding lower levels of investment or requiring additional debt to sustain funding levels. Interest payments are assuredly a valid concern, but the degree of their impact is debatable. Norrlof, for example, agrees that interest payments can be detrimental to long-term economic success, but she is less convinced that interest payments will reach a level to have significant impacts.[21] However, significant costs accompany foreign credit and can potentially reduce investment in areas supporting economic success.

E. HYPOTHESES

This thesis investigates the relationship between foreign-held U.S. national debt and national security. China is a primary focus because it is both a U.S. creditor and identified in national security documents as a major security threat. Therefore, Chinese-owned U.S. debts have the potential to impact the U.S. national security in multiple ways, both economically and politically. Four hypotheses will guide the analysis of U.S.-China debt relations.

My first hypothesis addresses U.S. debt's effect on defense spending. I expect that debt negatively impacts U.S. defense budgets. The primary concern derived from the literature is that debt will lead to forced reductions in government budgets to include spending on defense. Previous analyses conclude that a large national debt will reduce the United States' ability to spend on defense. U.S. defense budgets are assuredly affected by other factors such as foreign policy goals and domestic limitations. However, the public debt's magnitude increases the likelihood that it will lead to actions affecting budgetary decisions.

Next, the thesis considers whether U.S. debt undermines the reserve status of the U.S. dollar. The second hypothesis expects the U.S. dollar (USD) is likely to remain the dominant global reserve currency, even as debt levels rise. The literature shows that the dollar's status allows the U.S. to sell its debt under favorable conditions. A change in

[21] Norrlof, "Dollar Hegemony," 1045.

international preferences, away from the dollar, would reduce the capacity of the United States to support a large public debt. Previous analyses indicate that the political and economic power of the United States blocked attempts to replace the dollar with the euro in the mid-2000s. Chinese-owned debt assets are not expected to catalyze a shift in global economic norms. In addition, many other nations hold assets denominated in USD, and a Chinese push for monetary supremacy would likely encounter resistance from these other U.S. creditors. Political factors appear most likely to threaten the dollar's status, not the level of U.S. indebtedness.

Shifting from an economic to a political focus, the next hypothesis expects that U.S. debts will not constrain China's actions toward the United States. Tensions have certainly increased between China and the United States; however, it is not clear that debt is contributing to this trend. Debt benefits China economically, providing a secure mechanism to store its increasing wealth. Debt assuredly connects the United States and Chinese economies, and this hypothesis investigates whether debt's role in this economic connection affects China's interaction with the United States.

In close conjunction, the fourth hypothesis expect that Chinese-owned debts do not lead to more aggressive U.S. policies. Debt can lead to aggressive state behavior as seen in post-World War I Germany. However, the United States debt dynamic is much different resulting in different expectation. The United States debts are denominated in U.S. currency, and therefore, not fully controlled by its creditors. In addition, the U.S. debt is supported by an expansive economic and political foundation. The presence of these factors differentiates the current U.S. debt dynamic from previous cases. The unique qualities of the U.S. debt are therefore expected to insulate it from potential constraints caused by a large public debt, specifically in its competitive interactions with China.

F. RESEARCH DESIGN

Investigating the implications of the national debt for national security is best accomplished by considering multiple data sources for each hypothesis. U.S. public debt levels will serve as a common metric for comparison across all hypotheses. Subdividing U.S. debt levels into total U.S. debt, foreign-owned U.S. debt, and Chinese-owned U.S.

debt will yield a more detailed analysis. Chinese-owned debt is also central to the research question and hypotheses and will be used throughout the thesis.

The first hypothesis concerns trends in defense spending as debt increases. Quantitative data is used to examine the relationship between debt and U.S. defense budget trends. Chinese debt levels will be of particular importance as they directly address the great power competition context. Qualitative data from budgetary hearings and defense department statements provides the context for how defense spending decisions are made and whether the national debt is a factor in these processes.

The second hypothesis concerns potential Chinese efforts to replace the U.S. dollar with the Chinese Renminbi (RMB). Quantitative sources will provide insight into baseline trends in U.S. dollar value and usage worldwide. Qualitative data from trade, finance, and news organizations will aid in assessing the viability of any attempts to replace the dollar.

The third and fourth hypotheses relate to debts role in constraining U.S. and Chinese aggression. I will primarily analyze open-source government statements and commentary discussing the impact of debt on the competitive interactions between the two countries. Using only open-source and English language sources makes it difficult to come to any concrete conclusions regarding the impact of debt on China's actions, but academic commentary assists in filling in these gaps.

II. DEBT AND MONETARY POLICY

A. DEFENSE SPENDING

1. Introduction

The logical first step in investigating public debt's implication is determining its record. The literature raises concerns that debt will reduce the funds needed for defense and national security because of the additional interest burden of higher debt. In addition, U.S. public debt is equal to the annual output of the United States economy and could likely impact U.S. funding for national security. Foreign ownership of U.S. debts would also be expected to create some negative feedback for defense spending. For example, as China buys U.S. Treasury securities, it would want to ensure its credit is not being directed toward U.S. security efforts that undermine Chinese interests. This section investigates the record of debt and defense spending to determine their relationship.

The hypothesis of this section is that U.S. public debt reduces defense funding. This section begins with a quantitative analysis followed by a qualitative study. The quantitative section compares trends in defense spending to trends in debt. The data shows that defense spending actually rose with debt until 2010, when their behaviors diverge. The qualitative analysis uses congressional hearings to explain the change in 2010. The results show that legislation is the cause of the divergence behavior making the debt situation more dangerous. The divergent behavior confirms that debt negatively affected U.S. defense budgets.

2. Data

Quantitative data sets are used to compare the trends in defense spending with the level of U.S. debt. First, this thesis focuses on data from 2001 to 2020. Data is available for both defense spending and public debt dating back to the 1960s, but the data from 2001 to 2020 is more relevant to this project's research question. The research question is directed at capturing the debt dynamic in the context of competing great powers. The 2001 to 2020 time period encompassed the rise of China on the world stage, the U.S. debt surpassing $1 trillion, and the return of competitive narratives between global powers. The

debt relationship between China and the U.S. is central to this thesis and data best capturing the evolution of this relationship is of the highest importance.

U.S. public debt data levels are compiled by the St. Louis branch of the U.S. federal reserve bank. The "total debt" in this analysis reflects the total public debt issued by the federal government. Public debt includes U.S. debt assets owned by private investors, intragovernmental entities, federal reserve banks, and foreign entities. The types of assets encompassed in the total public debt are a variety of securities including bonds, bills, and notes.

The amount of U.S. debt securities owned by foreign investors is tracked and reported via monthly statements by the United States Department of the Treasury (U.S. Treasury). The analysis in this thesis uses annual values instead of quarterly or monthly figures because they better align with defense spending data allowing for a better comparison. Foreign ownership of securities involves some estimation as many countries, including China, do not issue public reports detailing their holdings. The U.S. Treasury uses the location of the issued securities to approximate holdings by foreign nations. This assumption adds some uncertainty. However, it appears to be the only available method of deriving useful data for trend analysis. In addition, the U.S. Treasury uses this method for its official reports creating sufficient confidence for this project.

The context surrounding the quantitative data is determined from congressional hearings on defense budgets. U.S. Senate hearings occurred irregularly making them less useful in developing a timeline of policy debate. In contrast, the U.S. House of Representatives Armed Services Committee (HASC) held hearings discussing defense spending more regularly. HASC and its subcommittee held multiple hearings each year from 2001 to 2020. U.S. The U.S. House of Representatives Budgetary Committee (HBC) also provides a useful policy discussion at least annually placing defense in the larger context of overall spending. Committee hearing testimony is used to assist in determining the role of debt in variations in defense spending.

3. Quantitative Analysis

The first quantitative test compares total U.S. defense spending and U.S. debt. The hypothesis expects a strong relationship but in a negative direction—when debt rises defense spending should decrease. Figure 1 displays the trends in U.S. debt and U.S. defense spending from FY2001 to FY2020. The figure shows that both debt and defense spending have increased over the last two decades. Analysis of the two variables yields a correlation constant (R-value) of .76, indicating a strong positive correlation. However, the total dollar value may be misleading. Inflation pressures require budgets to increase over time, regardless of debt trends, which might disguise any negative debt effects. Figure 1 shows that debt has not caused a complete reversal in defense spending trends but requires further investigation to falsify the hypothesis.

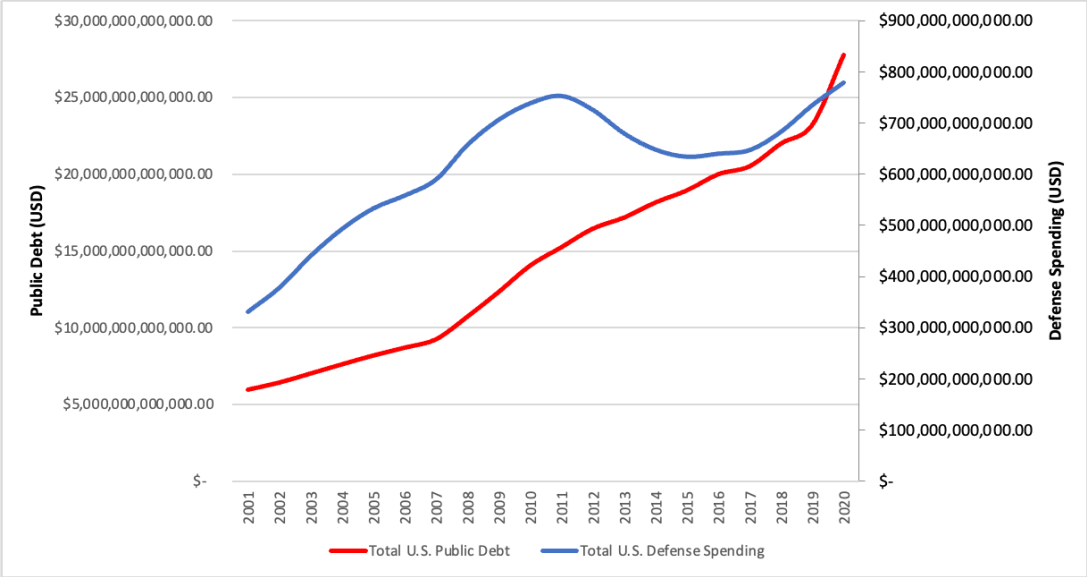

Figure 1. Debt vs. Defense Spending[22]

[22] Adapted from Federal Reserve Bank of St. Louis, "Federal Debt: Total Public Debt," FRED, August 26, 2021, https://fred.stlouisfed.org/series/GFDEBTN; World Bank, "Military Expenditure (% of GDP) – United States," World Bank, accessed August 15, 2021, https://data.worldbank.org/indicator/MS.MIL.XPND.GD.ZS?end=2019&locations=US&start=1992.

GDP ratios are a better means to trend debt and defense spending. Large monetary expenses are commonly reported and discussed relative to GDP. GDP ratios help place sums in billions or trillions of dollars, which can become abstract and difficult to reconcile, into perspective. For example, NATO specifies its members' defense obligations relative to each nation's GDP as a percentage. Figure 2 adopts the data from Figure 1 as percentages of U.S. GDP. A visible positive relationship between the two variables is no longer visible. U.S. debt exhibits similar behavior to Figure 1, showing a positive trend from 2001 to 2020, but defense spending does not exhibit this same phenomenon.

Defense spending oscillates between 3 and 5 percent of GDP, rather than a consistent trend. Due to this oscillation, the correlation constant for Figure 2's data is -.11, indicating a very small, negative relationship between the two variables. However, it does appear clear that defense spending exhibits two discrete trends. A positive trend from 2000–2010 and then a negative trend from 2010 to 2020. Figure 2 shows that a positive relationship likely existed between debt and defense spending, but something occurred in 2010 to disrupt this trend. This section's qualitative analysis will show that a legislative event caused this trend reversal.

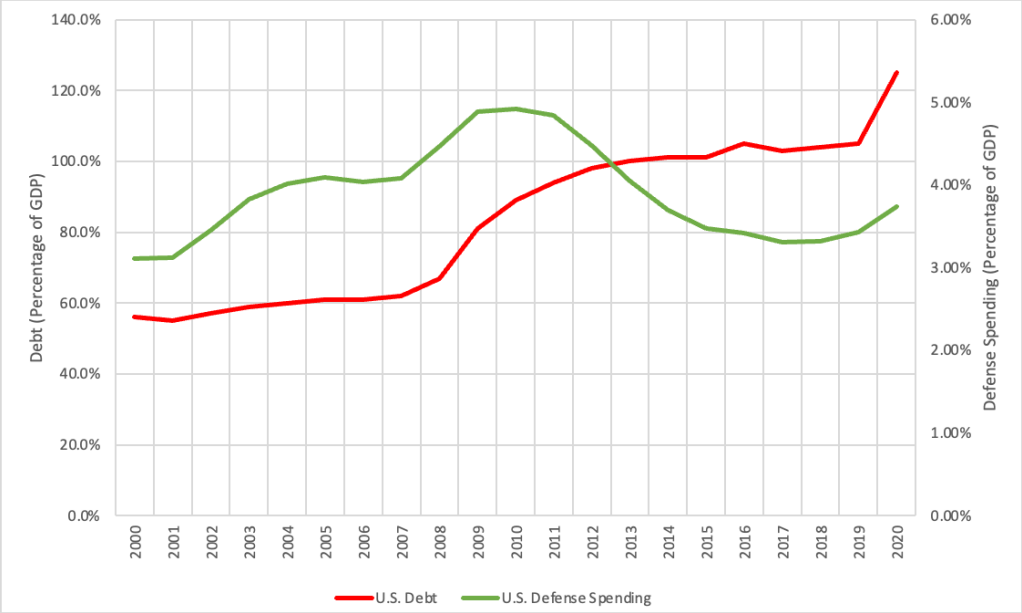

Figure 2. Debt vs. Defense Spending (Percentage of GDP)[23]

Next, the analysis considers the relationship between foreign ownership of U.S. debt and defense spending. Figure 3 plots U.S. Treasury securities owned by foreign countries and defense spending. Foreign ownership of treasury securities has increased similar to total public debt (Figure 2). The R-value between the two variables is .036, showing that little correlation exists between foreign-owned debt and defense spending. However, dividing the period in half shows a different trend. The correlation constant between the two variables from 2001–2010 is .95 and .14 from 2011–2020. Foreign-owned debt exhibits a similar shift as total debt in 2010. Examination both visibly and mathematically shows a correlation before 2010. This pattern again points to some event in 2010 altering the relationship between debt and defense spending.

[23] Adapted from Federal Reserve Bank of St. Louis, "Federal Debt"; World Bank, "Military Expenditure (% of GDP) – United States."

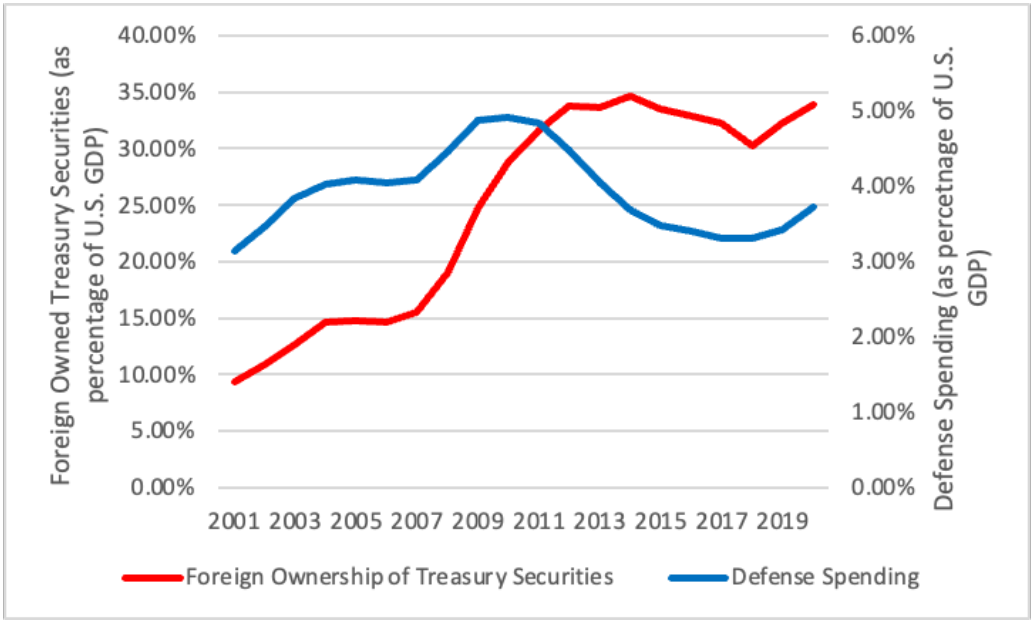

Figure 3. Foreign Ownership of Treasury Securities[24]

The last tier to consider is Chinese-owned debt, which directly addresses the great power competition dynamic of interest for this thesis. Figure 4 shows that Chinese debt exhibits somewhat different behavior than seen in the previous two tiers. Up to 2010, Chinese ownership behavior is consistent with both foreign-owned and overall U.S. debt (R-value of .93), but following 2010, it shows a different trend. After 2010, China reduces its holdings of U.S. Treasury securities which maintains a strong positive correlation with defense spending (R-value of .72), since both are declining at the same time. This change again points to 2010 as an inflection point but might more closely relate Chinese holdings with funding for national security because they continue to have a positive correlation. Either the Chinese are divesting in U.S. debt on their own accord or U.S. actions prompted this trend. The subsequent qualitative discussion will show it is likely the latter.

[24] Adapted from Department of Treasury, "Major Foreign Holders of Treasury Securities," accessed November 10, 2021, https://ticdata.treasury.gov/resource-center/data-chart-center/tic/Documents/mfh.txt; World Bank, "Military Expenditure (% of GDP) – United States."

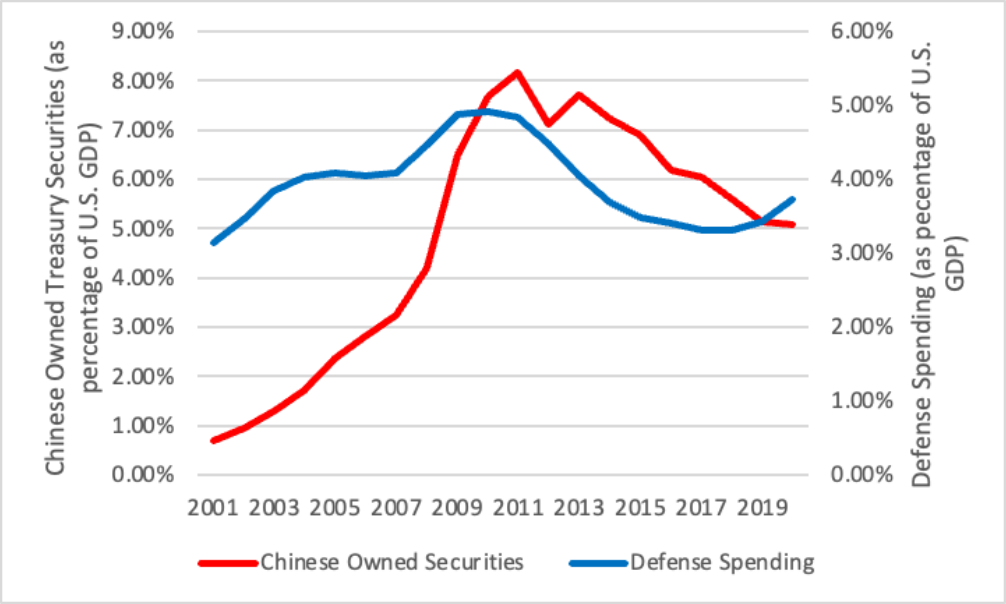

Figure 4. Chinese Owned Securities[25]

Table 1 summarizes the quantitative analysis which yields three insights for the hypothesis. First, a strong positive relationship existed across all three tiers from 2001 to 2010, suggesting that a higher debt corresponded with higher defense spending during this time. This finding runs contrary to much of the literature and the hypothesis' expectations but is intuitive; more debt provides the funds for larger defense budgets. The 2001 to 2010 period therefore shows a strong relationship between debt and defense spending, but not in the direction anticipated by the hypothesis. Second, all three tiers show an inflection point in 2010. As defense spending declined, public debt and foreign-owned debt continued to go up, but Chinese-owned debt diverged from the other two, following the trend in defense spending. The quantitative data does not indicate the reason for this unique trend. Lastly, the three debt tiers fail to fully explain defense spending from 2001 to 2020. The data shows periods of strong correlation but debt cannot directly account for the trend in defense spending over the entire period. However, the next discussion will show debt's indirect effect on defense spending.

[25] Adapted from Department of Treasury, "Major Foreign Holders of Treasury Securities"; World Bank, "Military Expenditure (% of GDP) – United States."

Table 1. Quantitative Summary of Debt and Defense Spending[26]

R-Value comapred to Defense Spending (% of GDP)			
	2001-2010	2011-2020	2001-2020
U.S. Public Debt (Total)	0.894*	-0.406	-0.111
Foreign Owned U.S. Debt	0.945*	0.145	0.036
Chinese Owned U.S. Debt	0.933*	0.724*	-0.356

Note: * indicates an R-value magnitude greater than .70.

4. Qualitative Analysis

The qualitative investigation considers HASC and HBC committee hearings regarding defense budgets. Figure 5 plots the separate instances that debt is discussed in HASC and HBC hearings on defense budgets. It is visible that HASC and HBC's discussion of debt and defense budgets sees a steep increase in 2010. An earlier uptick may be visible in 2008, but the subsequent fall in 2009 and 2010 makes it more appropriate to consider it a part of the 2001–2010 grouping. The HASC and HBC had less interest in debt from 2001 to 2010, and defense spending rose from 3.11% to 4.92% of GDP. Subsequently, from 2011 to 2020, congressional interest increased over three times, and defense spending declined to 3.74% of GDP. Congressional concern about debt corresponds with the inflection point seen in the quantitative analysis.

[26] Adapted from World Bank, "Military Expenditure (% of GDP) – United States"; Federal Reserve Bank of St. Louis, "Federal Debt"; Department of Treasury, "Major Foreign Holders of Treasury Securities."

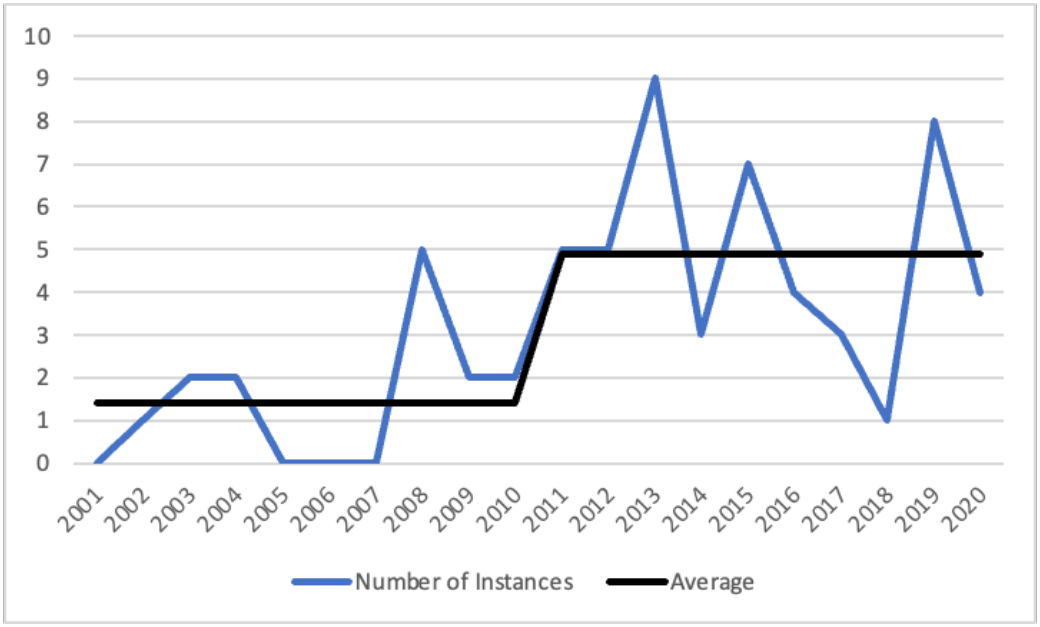

Figure 5. Instances of HASC Debate Regarding Defense Spending and Debt[27]

The most promising explanation for the shift in 2010 is the passing of the Budget Control Act of 2011 (BCA). Driessen and Lynch explain that the BCA established hard limits to both defense and non-defense spending.[28] They also indicate that the BCA instituted required yearly reductions for the same period. Lynch shows the BCA is the latest in a line of legislative actions intended to address concerns over U.S. government deficit spending, with the Budget Enforcement Act of 1997 being its predecessor.[29] The BCA is a promising explanation because it includes substantial restrictions on defense spending and corresponds with the downward trend seen after 2010.

A valid alternative argument might be that 2010 corresponds with a drawdown in U.S. efforts abroad in Iraq and Afghanistan. This does appear to be true, as shown in Figure

[27] Adapted from the United States House of Representatives Committee on Armed Services' and Committee on the Budget's hearing transcripts from 2000 to 2020.

[28] Grant A. Driessen and Megan S. Lynch, *The Budget Control Act: Frequently Asked Questions*, CRS Report No. R44874 (Washington, D.C.: Congressional Research Service, 2019), https://crsreports.congress.gov/product/pdf/R/R44874.

[29] Megan S. Lynch, *Statutory Budget Controls in Effect Between 1985 and 2002*, CRS Report No. R41901 (Washington, D.C.: Congressional Research Service, 2011), 11, https://crsreports.congress.gov/product/pdf/R/R41901.

6, but it does not change the outcome of this analysis. The Federation of American Scientists (FAS) issues periodic reports on the amount spent on U.S. wars abroad from 2001 to 2019.[30] Figure 6 shows total defense spending with and without FAS war funding. Not unexpectedly, the correction affects the value of defense spending, but the trend remains unchanged with a peak in 2010 followed by a decline to 2019. Wartime efforts do show some promise in explaining some variation in defense spending but they cannot account for the shift in 2010. The BCA remain the more promising explanation for trend reversal in 2010.

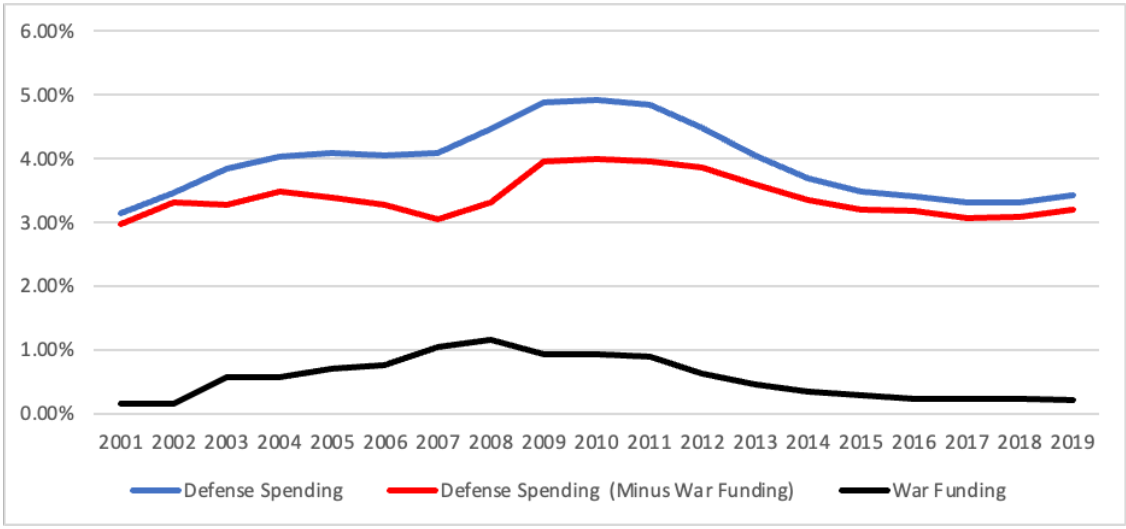

Figure 6. Defense Spending with War Funding Correction[31]

Congress has two options if BCA requirements are not met. First, Congress can pass legislation adjusting the requirements of the BCA, such as increasing discretionary spending limits or delaying reductions. Second, sequestration will go into effect, requiring Congress to distribute across-the-board reductions. The BCA creates a scenario requiring frequent congressional action to avoid a budgetary crisis. Therefore, it gives domestic

[30] Federation of American Scientists, "Cost of War: Through September 30, 2019," FAS, accessed January 16, 2022, https://man.fas.org/eprint/cow/fy2019q4.pdf.

[31] Adapted from Federation of American Scientists; World Bank, "Military Expenditure (% of GDP) – United States."

politicians fiscal leverage. Congress has not adjusted spending in accordance with the BCA, resulting in regular close calls with sequestration and government closures.

Domestic politics makes congressional action difficult; therefore, the BCA fosters uncertainty regarding defense budgets and the stability of U.S. debt securities. Driessen and Lynch show that subsequent congressional actions are required every two years to circumvent BCA budgetary constraints.[32] The congressional actions include the American Taxpayer Relief Act of 2012 and the Bipartisan Budget Acts (BBA) of 2013, 2015, 2018, and 2019.[33] Domestic politics make a more lasting agreement infeasible yielding only short-term fixes and keeping the U.S. defense budgets in constant flux, which indirectly connects U.S. debt and defense spending.

The BCA has not succeeded in stabilizing the national debt. In contrast, the BCA has introduced more instability to the government finance process. Spending continues to increase and only through routine crisis bargaining is financial disaster avoided. The BCA intended to sensibly address debt incrementally but did not address the underlying cause of deficit spending. The BCA expected that mandating budget cuts would solve the problem alone. However, without adjusting strategic priorities first, it should not come as a surprise that the BCA has not succeeded in curbing a U.S. proclivity for debt.

The BCA is the mechanism that links defense spending and the U.S. public debt. Harrison states that the BCA was a response to bipartisan concerns over increases in debt-funded deficit spending.[34] Congressional concern over debt prompted the legislation which resulted in reduced defense spending. The literature and the hypothesis expect that maintenance costs and reduced creditworthiness associated with higher debt levels put defense budgets at risk. However, the BCA shows that debt can have a different effect. U.S. debts did not yield budgetary constraints because of interest obligations or scarce financing but because debt prompted restrictive legislation. The legislative response to

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[32] Driessen and Lynch, *The Budget Control Act: Frequently Asked Questions*.

[33] Driessen and Lynch.

[34] Todd Harrison, "What Has the Budget Control Act of 2011 Meant for Defense?," CSIS, August 1, 2016, https://www.csis.org/analysis/what-has-budget-control-act-2011-meant-defense.

rising debt levels has negatively affected defense budgets, which supports the hypothesis, for the post 2010 period.

In addition, the BCA also corresponds with a reduction in Chinese investment. The implication of reduced Chinese capital will be discussed in greater detail in the next chapter but a withdrawal of Chinese investment signals that U.S. treasury securities are not the economic sanctuary they may have once been.

In summary, the BCA affected defense spending in reaction to the reliance on debt to fund government deficits. The legislation sought to reduce spending in order to reduce deficits to manage the level of U.S. debt. However, Figure 1 illustrates that these objectives were not met: the rate of U.S. debt increase remained largely unchanged following 2010 and saw another spiked increase in 2019. The BCA did institute rigid restrictions generating uncertainty over the United States' ability to finance its debts. Uncertainty is shown in reduced Chinese investment and the downgrading of the United States Credit Rating by Standard and Poors.[35] The BCA's intent has been hijacked by domestic political cycles undercutting the original aim of fiscal responsibility. Therefore, the BCA shows that legislative efforts have had negative impacts on defense spending without yielding any meaningful impact on the level of debt.

5. Conclusion

Synthesizing the results of the quantitative and qualitative analysis yields several findings regarding the impact of U.S. public debt on national security. First, after 2010, public debt did impact national security by causing reductions in defense spending, which supports the hypothesis and agrees with the literature. The defense spending metrics and congressional hearing records show that 2010 represents an inflection point in U.S. debt dynamics, and Congressional records indicate the best explanation is the Budget Control Act of 2011 (BCA). The BCA established explicit restrictions on discretionary spending

[35] Mark Jickling, *Standard & Poor's Downgrade of U.S. Government Long-Term Debt*, CRS Report No. R41955 (Washington, D.C.: Congressional Research Service, 2011), https://sgp.fas.org/crs/misc/R41955.pdf.

and mandated reductions in defense spending. The legislative response to a rising public debt resulted in rigid restrictions on defense spending.

Defense spending did show a decline after the BCA's passing, consistent with the hypothesis. However, this occurred through a different mechanism than is postulated by the literature. Rather than debt causing a fiscal disaster that cripples U.S. defense budgets, debt has had an indirect relationship. Congressional legislation aimed at reducing the perceived impacts of a growing debt, has added additional uncertainty that has negatively impacted defense budgets.

Additional insights were discovered that are significant, although less relevant to the hypothesis. First, the legislative response to debt failed to achieve this broader purpose: public debt continued to rise. The restrictions imposed by the BCA were sidestepped by subsequent congressional actions roughly every two years. These agreements were short-term bipartisan compromises that enabled Congress to raise the debt ceiling and fund its budget. The BCA shows that instituting budgetary constraints alone cannot reduce the public debt. The legislative action was not entirely flawed but only addressed the symptom, public debt(means), and did not consider U.S. national interests (ends). Without a strategic reassessment of the United States' desired ends or an increase in tax revenue, debt will continue to be needed to fill a financing gap. The trend of ignoring debt strategically is a theme that continues throughout this thesis.

Lastly, the BCA not only failed to conquer the U.S. proclivity for debt but made the debt dynamic less stable and more dangerous. Norrlof and Bernanke both emphasize that a tenet of maintaining a large national debt is ensuring stability of U.S. securities making them attractive to foreign investors.[36] The budgetary instability resulted in China divesting its U.S. debt holdings and, as Jickling shows, the United States credit rating being downgraded.[37] The situation was not a complete disaster. U.S. debt assets were still in demand internationally and other credit rating agencies maintained U.S. credit at the highest rating. However, China's debt trend and U.S. credit ratings signal that the BCA

[36] Bernanke, "The Global Savings Glut"; Norrlof, "Dollar Hegemony."

[37] Jickling, *Standard & Poor's Downgrade of U.S. Government Long-Term Debt*.

resulted in unintended reductions in confidence putting the government's ability to pay its bills at risk.

The BCA also brings to light a trend that will also appear in the later sections of this thesis. The United States does not integrate debt into its strategic aspirations. Public debt dynamics are complex. The BCA appears to apply a mortgage model to U.S. public debt, where the simple solution is to spend less. The BCA mandated this course of action, and yet the debt still increased. U.S. public debt itself may lead to fiscal dangers but the previous section suggests that an oversimplified reaction is likely more dangerous. Debt allows the U.S. to pursue ends that outweigh its means.

B. DEBT AND THE UNITED STATES DOLLAR

1. Introduction

The United States controls the global reserve currency which gives it the unique advantage of denominating its debts in USD. This section examines the hypothesis that U.S. public debt does not threaten the USD's global reserve status. To investigate this hypothesis, I examine five indicators that examine USD and RMB global status. A synthesis of the analyses for each indicator provides a net assessment of the strength of the hypothesis. The sub-section finds a continued USD dominance and that an RMB challenge to USD dominance is unlikely. This confirms the hypothesis and is a positive signal for future U.S. borrowing.

The United States dollar (USD) is the global reserve currency. It is accepted globally to fulfill the three functions of a currency as identified by Norrlof: store of value, medium of exchange, and unit of account.[38] The dollar gained global reserve status following World War II. Wheatley explains that following the war the U.S. economic position was superior to its European allies.[39] This provided the United States with leverage in the Bretton Woods negotiations, leading to the USD acting as a fixed position

[38] Norrlof, "Dollar Hegemony," 1045.

[39] Alan Wheatley, "The Origins and Use of Currency Power," in *The Power of Currencies and Currencies of Power*, ed. Alan Wheatley (London: The International Institute for Strategic Studies, 2013), 20.

for other currencies.[40] In addition, the United States agreed the dollar would be tied to a fixed amount of gold commonly referred to the "gold standard."

Subsequent U.S. foreign policy efforts pushed monetary policy away from the gold standard. Wheatley states, "By the late 1960s with the U.S. balance-of-payments deficit widening and the Vietnam War fueling inflation, the Bretton Woods system was on the verge of collapse."[41] The system allowed the U.S. to maintain spending levels but dragged down its currency's value and therefore the reserves held by its allies. Holders of USDs threatened to cash in their reserves for the corresponding gold equivalent. However, security concerns over the ability of the U.S. to maintain its NATO commitments amid financial hardship reduced the likelihood of this occurring. Multiple intermediary agreements provided quick fixes to remedy U.S. monetary policy with its Bretton Woods allies, but by the early 1970s the Nixon administration officially divorced the U.S. dollar from a fixed gold value.[42] However, removing the gold value for the dollar did not supplant the U.S. dollar as the favored reserve currency.

2. Data

The International Monetary Fund (IMF) is the source of much of the data for this section. First, there is descriptive data on the internal structures of the IMF, to include its voting rights distribution, currency composition of its Special Drawing Rights (SDR), and funding levels for its initiatives. Second, the IMF database for the denominations of international currency reserves provides a means to track trends in USD and RMB demand internationally. These data were collected from IMF data viewing tools or synthesized from its regularly issued reports and press releases.

The Bank of International Settlements (BIS) provides additional quantitative data used in this sub-section. First, BIS provides a yearly estimate of turnover in the foreign

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[40] Alan Wheatley, "The Origins and Use of Currency Power," in *The Power of Currencies and Currencies of Power*, ed. Alan Wheatley (London: The International Institute for Strategic Studies, 2013), 20.

[41] Wheatley, 20.

[42] Craig K Elwell, *Brief History of the Gold Standard in the United States*, CRS Report No. R41887 (Washington, D.C.: Congressional Research Service, 2011), 13, https://sgp.fas.org/crs/misc/R41887.pdf.

currency market. Turnover data shows the movement of international currencies which signals currency demand. Second, the BIS estimates the size of bond markets denominated in both USD and RMB. Comparison of the bond markets' capitalization helps determine if the RMB is trending to compete with the USD.

Next the analysis uses the World Bank's macroeconomic databases. The databases provide Gross Domestic Product (GDP) globally and for individual nations. GDP data is used characterize USD and RMB behavior in the context of overall economic size.

3. Analysis

a. Indicator 1: U.S. IMF Status

The first indicator of the USD's reserve status is the United States' position in the IMF. The IMF serves nations seeking assistance during economic hardship through loans, debt service relief, and emergency funding.[43] Costigan, Cottle, and Keys state, "The United States was and remains…the only member nation of the IMF to have a veto over IMF decisions."[44] U.S. veto power provides leverage over nations seeking IMF assistance. Weisbrot and Johnson portray the U.S. as blocking institutional reforms to the IMF designed to redistribute voting shares based on a changing global economy.[45] Costigan, Cottle, and Keys attribute USD supremacy to the position the U.S. enjoys in the IMF.[46] The United States' leadership in the IMF provides influence in an international monetary institution backing the global use of the USD. The United States' uncontested position in the IMF is a positive sign for continued USD usage abroad.

The Asian Infrastructure Investment Bank (AIIB) is an unsuccessful attempt to challenge the U.S.-dominated IMF. China holds a dominant position in the AIIB, which

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[43] Martin A Weiss, The International Monetary Fund, CRS Report No. IF10676 (Washington, D.C.: Congressional Research Service, 2021), https://sgp.fas.org/crs/misc/IF10676.pdf.

[44] Thomas Costigan, Drew Cottle, and Angela Keys, "The U.S. Dollar as the Global Reserve Currency: Implications for U.S. Hegemony," World Review of Political Economy 8, no. 1 (2017): 108, https://doi.org/10.13169/worlrevipoliecon.8.1.0104.

[45] Mark Weisbrot and Jake Johnston, "Voting Share Reform at the IMF: Will It Make a Difference?" (Washington, D.C.: Center for Economic and Policy Research, 2016), https://cepr.net/images/stories/reports/IMF-voting-shares-2016-04.pdf.

[46] Costigan, Cottle, and Keys, "The U.S. Dollar as the Global Reserve Currency," 108.

serves to finance China's Belt and Road (BRI) projects.[47] However, AIIB and BRI financing is mostly conducted in USD, which signals the limited international reach of the RMB.[48] Costigan, Cottle, and Keys conclude, "while the creation of the AIIB is an important development, it is not an institution of the same magnitude or influence as, nor is it a rival to, the IMF or the World Bank."[49] It should be said that the AIIB and IMF fulfill different missions. The IMF functions as a stabilizing relief force, and the AIIB is structured to invest in developmental projects in Asia. The scale is also quite different. The IMF claims to have $1 trillion in lending power.[50] The AIIB capital reserves are less transparent, but its total dispersed funds from 2016 to 2020 totaled just over $9 billion USD.[51] In addition, the AIIB reports its dispersed funds in USD and states it is a USD backed organization.[52] China is assuredly making strides as regional finance leader but its position in the AIIB has not posed a viable challenge to USD primacy.

The U.S. position in the IMF puts it in a leadership position for global finance. Although IMF voting rights are periodically adjusted, the U.S. remains the most powerful voting member. The formula to calculate the voting rights is based on a formula accounting for a member's GDP, openness, variability, and reserve holdings.[53] Table 2 shows the most recent IMF voting rights adjustments. First, the table shows that the top ten voting members in the IMF have not changed for a decade. Second, the order of the top voting members and their respective voting shares has remained relatively stable. Therefore, the U.S.

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[47] Martin A Weiss, Asian Infrastructure Investment Bank (AIIB), CRS Report No. R44754 (Washington, D.C.: Congressional Research Service, 2017), https://crsreports.congress.gov/product/pdf/R/R44754/6.

[48] Costigan, Cottle, and Keys, "The U.S. Dollar as the Global Reserve Currency," 117.

[49] Costigan, Cottle, and Keys, 117.

[50] International Monetary Fund, "Build Forward Better: IMF Annual Report 2021" (Washington, D.C.: International Monetary Fund, 2021), https://www.imf.org/external/pubs/ft/ar/2021/eng/.

[51] Weiss, Asian Infrastructure Investment Bank (AIIB).

[52] Asian Infrastructure Investment Bank, "AIIB Frequently Asked Questions," AIIB, accessed December 10, 2021, https://www.aiib.org/en/treasury/_other_content/faq/index.html.

[53] International Monetary Fund, "IMF Quotas," IMF, March 4, 2021, https://www.imf.org/en/About/Factsheets/Sheets/2016/07/14/12/21/IMF-Quotas.

position in the IMF remains secure in the near term despite its rising debt and continued dominance in the IMF is a positive indicator for the USD's status as a reserve currency.

Table 2. Percentage of IMF Voting Rights[54]

IMF Voting Rights			
	2012	**2017**	**2021**
United States	**17.398**	**17.398**	**17.395**
Japan	6.461	6.461	6.460
China	**6.390**	**6.390**	**6.389**
Germany	5.583	5.583	5.582
France	4.225	4.225	4.224
United Kingdom	4.225	4.225	4.224
Italy	3.159	3.159	3.159
India	2.749	2.749	2.749
Russian Federation	2.705	2.705	2.705
Brazil	2.315	2.315	2.314

b. Indicator 2: Share of the Global GDP

Siddiqui proposes that the U.S. share of the global economy is declining, foreshadowing a shift away from the USD.[55] GDP trends appear to be a valid consideration, as nations with powerful economies tend to issue the global reserve currency (historically, the United States or Great Britain). Figure 7 shows the trend in the share of global GDP for both the United States and China since 2001. The data does show a decline in the U.S. share from 2001 to 2011, with China exhibiting a steady rise over the same period. The U.S. trend from 2001 to 2010 is assuredly a product of multiple factors including protracted conflicts in Iraq and Afghanistan and the recession following the 2008 financial crisis. It is no surprise to see China's share of global GDP going up as it has a

[54] Adapted from International Monetary Fund, "Updated IMF Quota Data – August 2012," IMF, August 8, 2012, https://www.imf.org/external/np/fin/quotas/2012/0812.htm; International Monetary Fund, "Updated IMF Quota Data – August 2017," IMF, November 9, 2017, https://www.imf.org/external/np/fin/quotas/2017/0817.htm; International Monetary Fund, "Updated IMF Quota Data – July 2021," IMF, November 29, 2021, https://www.imf.org/external/np/fin/quotas/2021/0730.htm.

[55] Kalim Siddiqui, "The U.S. Dollar and the World Economy: A Critical Review," Athens Journal of Business & Economics 6, no. 1 (December 5, 2020): 21–44, https://doi.org/10.30958/ajbe.6-1-2.

massive workforce and is outpacing global economic growth. Global GDP trends would yield a pessimistic outlook for future USD primacy.

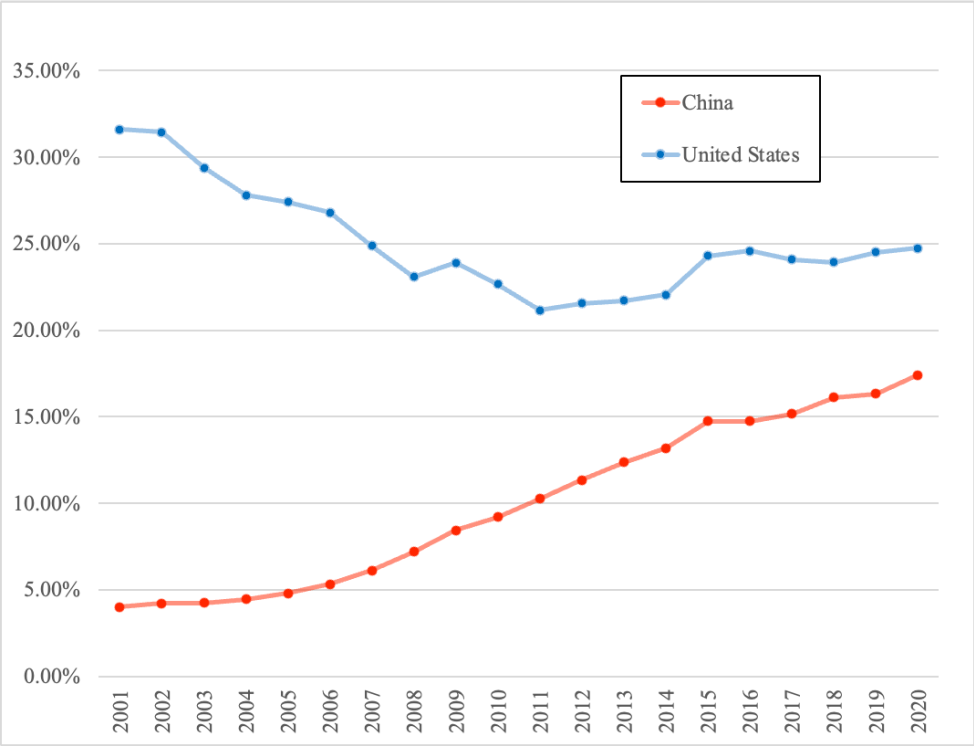

Figure 7. U.S.-China Share of Global GDP[56]

The shift from the Great British Pound (GBP) to USD as the global reserve currency is the most recent historical example of the way that GDP shapes currency strength. Figure 8 shows the share of global GDP for the United States and Great Britain. A discrete date of when the GBP was overtaken by the USD can be debated, but it is reasonable to assume it occurred following WWII and the Bretton Woods conference and was the established norm by the 1970s. Figure 8 shows that from 1900 to 1980, the U.S. economy decisively outperformed the British economy, often doubling its share of worldwide GDP. Economic size is generally associated with the largest global economy, but this historical

[56] Adapted from World Bank, "GDP (Current US$) – China, World, United States," World Bank, accessed November 30, 2021, https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?end=2020&locations=CN-1W-US&start=2001.

example indicates that the transition can take many decades and can occur well after the rising power is outperforming the status quo power. Therefore, GDP share is a negative signal for the USD but cannot predict when a shift in global currency preferences may occur.

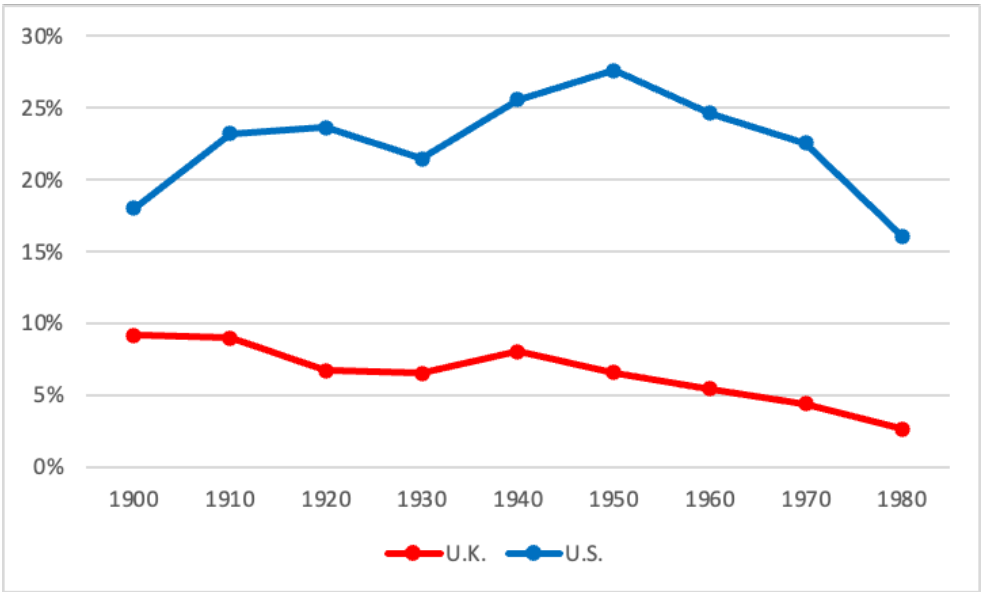

Figure 8. U.S.-U.K. Share of Global GDP 1900–1980[57]

Declining U.S. economic performance, as seen in Figure 7 and Figure 8, is certainly a concerning trend for USD primacy. Historically the global reserve currency is associated with the highest performing economy. However, additional factors are critical for a currency to achieve reserve status including free-and-open capital markets, transparent monetary policy, and government confidence. Siddiqui raises concerns that unsustainable U.S. debt levels will result in a loss of confidence in U.S. currency.[58] However, U.S. debt is denominated in USD. Therefore, the U.S. Treasury can always print more dollars to meet U.S. debt obligations, reducing the risk of default. Tu and Zhang summarize stating, "the United States now does not have any obligations for the world in controlling the USD

[57] Adapted from Our World in Data, "GDP: 1000 to 2018," Our World in Data, accessed February 8, 2022, https://ourworldindata.org/grapher/gdp-world-regions-stacked-area.

[58] Siddiqui, "The U.S. Dollar and the World Economy," 29.

supply, only for domestic macroeconomic conditions."[59] Therefore, U.S. debt is unlikely to catalyze a sudden shift in global preferences away from the USD. However, the slow U.S. economic decline (relative to the global economy) may be a precursor for a long-term shift for a multipolar monetary system, which would constrain U.S. debt policy. U.S. GDP trends are not in disagreement with the hypothesis but do show concern over the long-term viability of USD supremacy.

c. Indicator 3 Use of the USD Worldwide

The USD's unparalleled role in trade has helped prolong its dominance. Wheatley shows that critical commodities, including oil, copper, and iron, are traded in dollars.[60] He adds that oil exporters attempted to move away from using the USD, but their efforts have been unsuccessful.[61] The USD's convenience for global trade reinforces its status and makes it more resilient to alternative currencies. The long run of dollar supremacy reduces the likelihood that another currency could generate the momentum necessary to challenge the USD.

The USD's international acceptance allows the United States to direct monetary power toward security efforts. Costigan, Cottle, and Keys state that foreign nations are happy to trade their goods for U.S. debt because "everyone takes dollars."[62] Widespread acceptance of USD allows the U.S. to buy security support abroad easily. Wheatley highlights the recent use of USDs by the CIA to buy warlord support against the Taliban in the early 2000s.[63] He quotes a U.S. official stating, "We paid them to overthrow the Taliban."[64] The CIA simply exchanged minted USD notes and gained a vital partner for

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[59] Xinquan Tu and Kevin H. Zhang, "International Monetary Systems and U.S. Trade Deficits with China – Naval Postgraduate School," Chinese Economy 52, no. 5 (2019): 382–83, https://doi.org/10.1080/10971475.2019.1617924.

[60] Wheatley, "The Origins and Use of Currency Power," 29.

[61] Wheatley, 29.

[62] Costigan, Cottle, and Keys, "The U.S. Dollar as the Global Reserve Currency," 113.

[63] Alan Wheatley, "Introduction," in *The Power of Currencies and Currencies of Power*, ed. Alan Wheatley (London: The International Institute for Strategic Studies, 2013), 9.

[64] Wheatley, 9.

U.S. operations against the Taliban. The USD is a useful asset to support defense initiatives abroad. Continued use of USDs abroad supports this section's hypothesis.

The USD and RMB shares of global currency reserves provide a useful measurement of their global reach. Figure 9 displays a breakdown of global reserves by the denominated currency.[65] The data shows the U.S. dollar is the most widely used currency for global currency reserves. USD reserve composition has declined from 72.31 percent in 2001 to 59.51 percent in 2021. However, despite the slow decline over the last two decades, the USD maintains a dominant share of global reserves. It does not appear likely that another currency will reach parity in the near term. The U.S. Federal Reserve (FED) expects that reduced USD shares are a product of diversification rather than divestment and states that no one nation is driving the downward trend in USD reserves. Therefore, U.S. debt levels do not appear to be causing a significant shift in global preferences away from the USD in the near term.

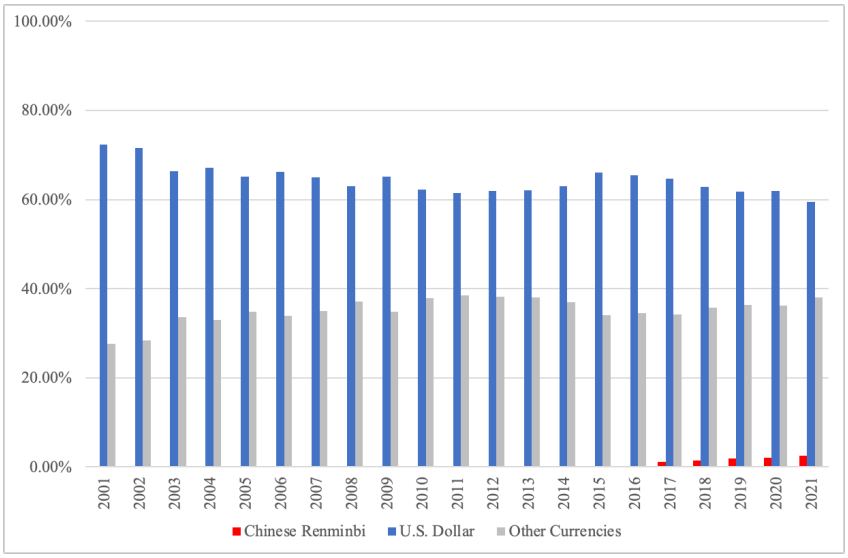

Figure 9. Global Reserve Composition by Currency[66]

[65] International Monetary Fund, "Currency Composition of Official Foreign Exchange Reserves (COFER)," IMF, November 30, 2021, https://data.imf.org/?sk=E6A5F467-C14B-4AA8-9F6D-5A09EC4E62A4.

[66] Adapted from International Monetary Fund.

The data also questions the viability of the RMB as a competitor to the USD. Figure 9 shows that the RMB was not a meaningful player in the currency reserve market until 2017. The RMB has shown a positive trend as a reserve currency, but it is not a peer competitor to the USD. In addition, Figure 10 displays the share of foreign currency exchange trading turnover for the USD and RMB. The data shows USD trading is much higher than trading of RMB. The Euro (EUR), Japanese Yen (JYN), GBP, and Australian Dollar (AUD) all are traded in greater volumes than the RMB. Figure 9 and Figure 10 both show the USD remains the preferred currency worldwide. The RMB is showing positive signs but is not a significant competitor and does not appear to be on track to reach this level in the near term.

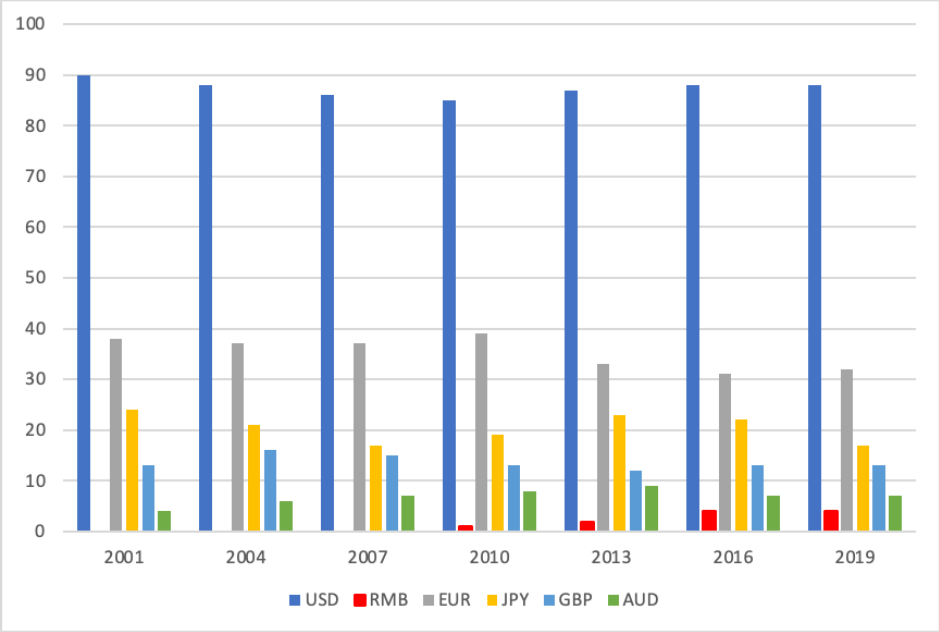

Figure 10. Currency Share of Foreign Exchange Turnover[67]

[67] Adapted from Bank of International Settlements, "Turnover of OTC Foreign Exchange Instruments, by Currency," BIS, accessed December 11, 2021, https://stats.bis.org/statx/srs/table/d11.3.

Currency usage data therefore supports the hypothesis that the USD is likely to remain the favored international reserve currency. The sheer volume of USD reserves simply overshadows RMB reserve holdings and trading capacity. However, the RMB is showing traction in the market becoming one of the more widely traded and held currencies worldwide but has only recently become a top 10 currency and is still surpassed by many others as seen in Figure 10. A meaningful global push to replace the USD is not out of the question but appears to be at a minimum multiple decades in the future.

d. Indicator 4: Chinese Economic Trends

The viability of the RMB as an alternative to the USD is connected to Chinese economic behavior. First, China maintains the largest global currency reserves. The IMF reports that China's reserve currency holding is valued at $3.357 trillion, with the next highest being Japan holding currency reserves valued at $1.391 trillion.[68] David Dollar proposes that China's high levels of currency reserves represent a strategic decision.[69] Dollar explains that having high levels of reserves allows China to influence currency supply, artificially lowering the value of the RMB, even as the Chinese economy grows.[70] Manipulating currency values by absorbing the global supply of USD provides a favorable trading position for its domestic exports. Lower RMB values allow the world to buy more Chinese goods boosting demand. An export-driven economy fueled the Chinese economic boom previously shown in Figure 7. However, the Chinese now possess large currency reserves, most of which are USDs. Therefore, China cannot use its reserves coercively without also threatening its economic safety net. Flooding the market would reduce the USD's value but China's reserve value and its USD debt holdings would suffer equally.

Chinese economic pressures indicate two important considerations for the viability of the RMB as a reserve currency. First, the Chinese government carefully controls its monetary supply to yield favorable trade situations. Second and related to the first point,

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[68] World Bank, "Total Reserves (Includes Gold, Current US$)," World Bank, accessed December 9, 2021, https://data.worldbank.org/indicator/FI.RES.TOTL.CD?locations=CN-JP.

[69] World Bank.

[70] World Bank.

China is not completely divesting from its large holdings in dollars. China's practices create risk for potential holders of RMB assets. The government has exhibited a willingness to manipulate currency markets to advance its interests. Countries wanting a safe asset to hold value will have doubts that China's monetary policies will act in their interest. International confidence in the RMB as an alternative to the USD or EURO will assuredly be impacted by China's continued policy to manipulate its value and to artificially control of economic pressures within its borders.

e. Indicator 5: RMB Internationalization Efforts

Chinese efforts to internationalize the RMB provide another useful line of thought regarding its prospects as a global reserve currency. Peter Kenen proposes a list of criteria for internationalizing a currency.[71] His criteria focus on the free movement of a nation's currency and capital, and the ability to conduct international business (trade, finance, etc.) denominated in a nation's currency. China fails to meet most of Kenen's criteria, largely because of the strict control the Chinese Communist Party (CCP) maintains over financial and monetary policy. Kenen concludes that liberalizing monetary markets does not guarantee internationalization, but his analysis suggests that it is a prerequisite. In addition, internationalizing a currency does not guarantee that it will become a favored international reserve instrument. However, if China adopted more liberal monetary practices, it would be a strong indicator of an RMB push toward global reserve status.

China has made strides in internationalization by creating bond markets both in Hong Kong and abroad (dubbed Dim Sum Bonds). Trends in the total market capitalization of RMB bond markets are difficult to decipher without a unified database. However, BIS indicates that in 2021, the RMB security market represents $19 trillion compared to the USD market at $47 trillion.[72] Matt Wirz of the Wall Street Journal adjusts for government

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[71] Peter B. Kenen, "Currency Internationalization: An Overview," ed. Bank of International Settlements, *BIS Papers* 61 (2011): 11–12, https://www.bis.org/publ/bppdf/bispap61.pdf.

[72] Bank of International Settlements, "Debt Securities Statistics," BIS, June 7, 2021, https://www.bis.org/statistics/secstats.htm; "Debt Securities Statistics," June 7, 2021, https://www.bis.org/publ/bppdf/bispap61.pdf.

debt yielding a comparable figure of $15 trillion for the same year.[73] Hibah Yousef explains that the RMB bond market started small in 2007 at just over $1 trillion and has shown exponential growth to its current market capitalization.[74] Opening Chinese capital markets through bond exchanges is assuredly a step toward the liberalization required of a reserve currency. However, this bond market opening has not significantly increased the usage of RMB in global reserves as indicated by Figure 9 and Figure 10. Nevertheless, an established bond market denominated in RMB is a meaningful step towards currency internationalization.

China's economic success has also increased its presence in the IMF's Special Drawing Rights (SDR) pool. The IMF's SDR are a reserve asset consisting of a basket of the top global currencies and are used as a means of trading between IMF member countries.[75] he SDR makeup is evaluated every five years, with a provision to be evaluated earlier if warranted. Figure 11 displays the most recent SDR weight adjustments. As might be expected, the USD represents the highest weight followed by the Euro. Figure 11 does show a noticeable decline in the position of the USD in the 2011 and 2016 allocations. The USD remains the dominant currency but is showing less dominance, especially after the RMB was first included in 2016. USD primacy is not assured to decline but the SDR is the most acute example of it possibly slipping in popularity.

[73] Matt Wirz, "Chinese Bond Swings Threaten Global Debt Investors; Turmoil in China Spreads beyond Emerging-Markets Specialists to Conventional Bond Funds That Bought Debt from Country's Firms in Recent Years – ProQuest," *Wall Street Journal*, August 10, 2021, ProQuest.

[74] Hibah Yousuf, "Appetite for Dim Sum Bonds Growing," CNNMoney, February 15, 2012, https://money.cnn.com/2012/02/15/markets/bondcenter/dim_sum_bonds/index.htm.

[75] International Monetary Fund, "Special Drawing Rights (SDR)," IMF, August 5, 2021, https://www.imf.org/en/About/Factsheets/Sheets/2016/08/01/14/51/Special-Drawing-Right-SDR.

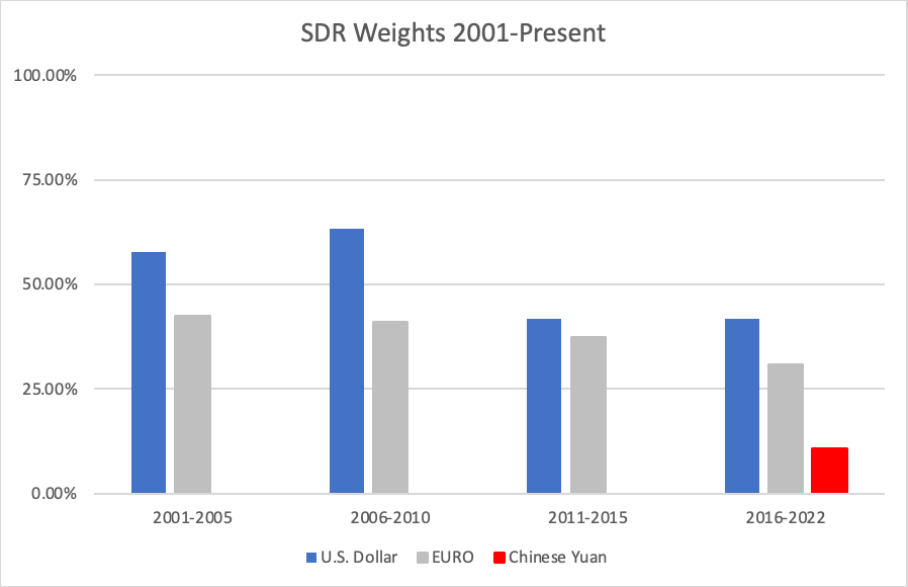

Figure 11. SDR Weight Percentages from 2001–Present[76]

However, U.S. debt does not appear to directly affect the SDR allocations. The IMF states that two criteria must be met before being included in the SDR basket. First, the currency must meet an export criterion. The IMF states that the export criteria require the currency issuer to be an IMF member and one of the top 5 world exporters. China meets both conditions of the export criterion. Second, the currency must be "freely usable."[77] Freely usable means the currency must be used widely for international transactions and traded widely on foreign exchange markets. This second criterion is more subjective but is likely a better gauge of international preferences, which can be difficult to quantify. It appears clear that international interest and acceptance of the RMB are increasing, but Chinese actions are likely the source of this change and not U.S. debt levels.

The Belt and Road initiative (BRI) exhibits the limitations of efforts to internationalize the RMB. The BRI promises investment in infrastructure projects worldwide to connect Eurasian and North African markets. Liang highlights that the

[76] Adapted from International Monetary Fund; International Monetary Fund, "Updated IMF Quota Data – July 2021"; International Monetary Fund, "Updated IMF Quota Data – August 2017"; International Monetary Fund, "Updated IMF Quota Data – August 2012."

[77] International Monetary Fund, "Special Drawing Rights (SDR)."

primary benefit of the program is geopolitical, with China using infrastructure investment to increase its presence and influence in developing nations.[78] However, Liang also points out that "China's BRI investment and lending is done mostly in dollars."[79] He explains that tight Chinese monetary control is impeding increased usage of the RMB abroad and without significant reforms, the RMB will not be used widely in the BRI. Therefore, RMB internationalization appears to have limits even within Chinese-led institutions.

The Chinese have certainly made steps in internationalizing the RMB. Notably, they have established the RMB in the SDR pool and created a vibrant bond market denominated in its domestic currency. However, without additional policy reforms, international interest in the RMB is likely to plateau, as indicated in China's BRI financing. The USD's dominant position does not appear threatened in the near term, but this section does indicate that the RMB can make a long-term push as a potential competitor.

4. Conclusion

The increase in U.S. debt has not led to the USD being overtaken by another currency on the global stage. The data shows that USD usage worldwide continues to be strong even amid China's rise as a global economic competitor. However, the USD position is not guaranteed over the long term. Trends indicate increases in RMB usage and acceptance worldwide.

Although a rapid shift does not appear likely the U.S. should take steps to insulate it from the effects of an RMB challenge to the USD. The dollar puts the U.S. in a position of considerable influence. Using this position to smooth any transition to a bipolar currency dynamic will assuredly lead to a better strategic outcome than outright ignoring or combatting changes in international preferences. The shift away from the GBP to the USD did not exhibit a smooth coexistence. The U.S. debt is benign because it is written in dollars which are demanded abroad. The debt dynamic will shift unfavorably for the U.S. if the RMB reaches a global status without mitigation on the part of the U.S.

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[78] Yan Liang, "RMB Internationalization and Financing Belt-Road Initiative: An MMT Perspective," *The Chinese Economy* 53, no. 4 (2020): 317–28, https://doi.org/10.1080/10971475.2020.1728478.

[79] Liang.

III. DEBT AND SECURITY POLICY

A. INTRODUCTION

Whereas the previous chapter focused on the fiscal effects (defense budgets and currency status) of public debt, this chapter will investigate the debt's effect on U.S.-Chinese interactions. Tensions between the United States and China have increased over the past two decades. Competitive narratives exist across the many sectors of national power to include both military and economic power. Therefore, a positive correlation exists between the rising U.S. public debt and U.S.-China competitive tensions. However, a positive correlation is not very enlightening, and a study of debts implications for U.S.-China competition is required.

Two related hypotheses are used to investigate the role of U.S. debt in influencing U.S.-Sino interactions. The first hypothesis anticipates that debt has not constrained U.S. strategy and policy. Closely related, the second hypothesis expects that Chinese ownership of U.S. debt has not restricted China's strategy and policy. Both hypotheses expect that the two nations' behaviors are not influenced or constrained by U.S.-Chinese debt dynamics.

This chapter first describes the sources used in the analysis. Second, the analysis discusses the strategic policies of both the United States and China, showing that both nations largely ignore the presence of a debt dynamic between them. In addition, the data also shows that debt has not shaped either state's approach to recent competitive interactions. Next, the Democratic Advantage and the Thucydides Trap theories provide a means of framing empirical data to test the degree to which U.S.-Chinese interactions are constrained by debt. The Democratic Advantage theory would expect the United States to be less constrained than China, which supports the third hypothesis and refutes the fourth. The Thucydides trap framework expects that U.S. debt can be a meaningful constraint for both countries, which contradicts both hypotheses. The analysis finds broad support for both hypotheses, but also that they require refinement.

B. DATA

U.S. strategic policy and doctrine were the first sources considered. First, the United States National Security Strategy (NSS) is periodically published by the President of the United States and is the primary source for detailing U.S. strategic direction concerning national security. The NSS provides a periodic assessment and calibration of U.S. national security priorities and challenges. In addition to the NSS, strategic plans and annual reports from the Department of the Treasury, the Federal Reserve, and the Department of State were also consulted. The period considered is consistent with the previous sections, 2000 to 2020.

Chinese strategic policy and doctrine are less accessible due to both the opaque workings of the PRC government and reliance on translated sources. In the absence of translated primary documents, secondary accounts and reports were a required substitute to draw any meaningful conclusions. The documents and analysis considered are related to the 14th Five-Year Plan (2021-2025), the Made in China 2025 initiative, the Military-Civil fusion initiative, and China's defense white papers. The limited availability is surely a drawback, but the analysis of both U.S. and Chinese doctrine shows they alone do not provide conclusive evidence to confirm or refute the hypotheses.

Next, data regarding the difference in Chinese and U.S. access to credit is considered, to evaluate the presence of a democratic financing advantage. Trends in U.S. credit usage are derived from federal spending, tax revenue, and debt levels published by the St Louis Federal Reserve databases. The assessment of Chinese credit behavior uses World Bank data on savings, tax revenues, and government debt. Next, credit ratings from four prevalent bureaus are used: S&P (Standard & Poors), Moody's, Fitch, and DBRS (DBRS Morningstar, formerly Dominion Bond Rating Service). Ratings were garnered from one internet source and then independently checked with the rating agencies themselves or with news reports. Because ratings can change multiple times in one year, the rating most representative of the entire year is used. For example, if a downgrade occurred but was reversed later in the year the higher rating would best represent the long-term trend and was used for that year.

In addition, Vision of Humanity's global peace index provides a metric to trend the aggressive tendencies of both China and the United States. The index evaluates 163 countries in indicators covering the areas of ongoing conflict, societal security, and militarization. The index includes some measurements such as incarceration that are less relevant to this project, but the index provides a useful method to quantify U.S. and China's global aggression.

To understand whether debt played a role in deterring or encouraging conflict between the U.S. and China, I use academic sources discussing whether U.S. debt impacts the presence of a Thucydides Trap between China and the United States. The discussion focuses on the U.S. debt's contribution to economic interdependence allowing some quantitative analysis. Trade data is sourced from the U.S. Bureau of Economic Analysis (BEA). U.S. imports and exports from China were combined to represent the total trade between the two nations. U.S. Treasury databases provided information on Chinese-owned U.S. debt securities. The World Bank records Chinese reserve levels. The currency denomination of China's reserves is not public knowledge, but academic assessments provided a conservative estimate to allow analysis.

C. ANALYSIS

1. U.S. Strategic Doctrine

One possible indication that debt concerns are driving U.S. security policy towards China would be the presence of debt issues in national security documents. However, the NSS devotes minimal attention to U.S. debts. Figure 12 shows the number of times the NSS mentions the national debt or deficit. The figure shows that the NSS only mentioned the public debt in 2010 and 2017. The 2000, 2002, and 2006 NSS only discussed the debts of other nations and made no mention of the U.S. national debt. The 2010 NSS's timing makes it a likely response to the same domestic political concerns that resulted in the Budget Control Act of 2011 (BCA). The 2010 NSS makes a case for fiscal responsibility and reducing the debt burden for future generations but makes no mention of a specific creditor (China). The 2017 NSS briefly mentions debt but limits its discussion to fiscal

responsibility in general. Therefore, in the absence of serious discussion, the NSS would appear to support an unconstrained view of debt and security initiatives.

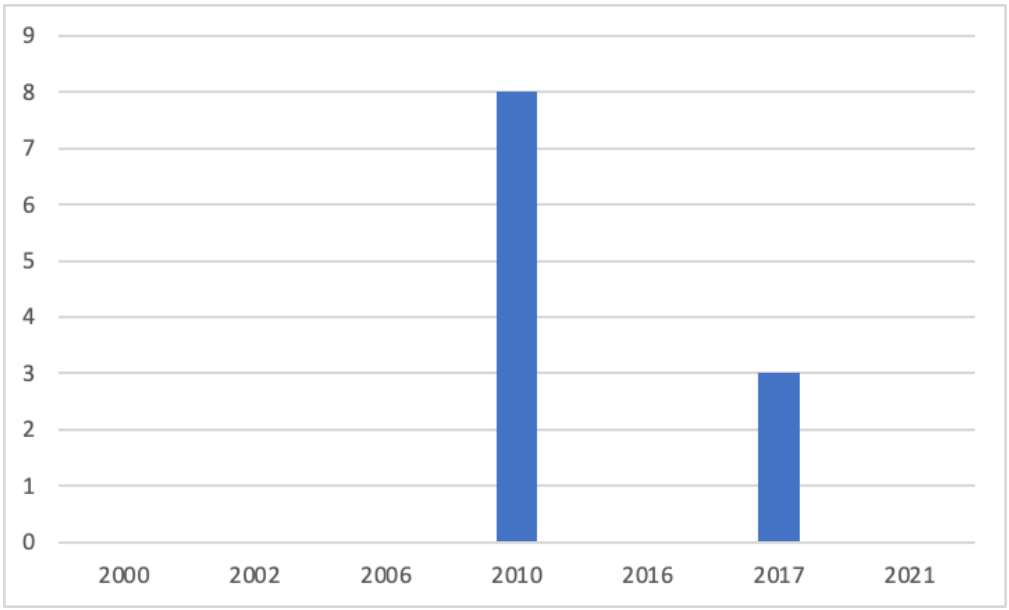

Figure 12. Number of times U.S. Debt or Deficit is Mentioned in the NSS[80]

Other government departments are assuredly more intimately involved with debt policy. The U.S. Department of the Treasury issues an annual financial report for the government of the United States that reports on matters related to the financial health of the U.S. government, to include an assessment on the level of public debt. The treasury assessment grades U.S. debt policy as either sustainable or unsustainable. The treasury states that sustainable debt levels mean the debt-to-GDP ratio is stable or falling, and unsustainable indicates the ratio is expected to rise without government action.[81] Table 3 indicates the treasury's assessment of the debt situation from 2000 to the present, with every assessment after 2004 indicating unsustainable debt levels.

[80] Adapted from Historical Officer of the Secretary of Defense, "National Security Strategy," Secretary of Defense, accessed February 10, 2022, https://history.defense.gov/Historical-Sources/National-Security-Strategy/.

[81] U.S. Department of the Treasury, "2019 Financial Report of the United States" (Washington, D.C.: U.S. Department of the Treasury, 2019), https://www.fiscal.treasury.gov/files/reports-statements/financial-report/2019/FR-02272020(Final).pdf.

Two treasury reports, 2004 and 2005, directly present unsustainable debt as a risk to national security.[82] It is not clear from the reports why subsequent reports maintained the unsustainable assessment but eliminated the connection to national security. In 2004 and 2005, the United States was settling into two expensive conflicts in Iraq and Afghanistan. Shea states that raising taxes to fund wars is difficult and unpopular in democracies, so credit is the likely avenue to fund military efforts abroad.[83] It is unlikely that the government would contradict itself by stating that it needed credit to fund national security efforts while its financial reports state that debt is a national security risk. A more likely scenario is that the language was adjusted to prevent a contradiction, by removing the reference to national security in the Treasury's financial reports. The United States could therefore continue to fund aggressive policies with debt, in places such as Afghanistan, Iraq, and Southeast Asia, while raising fewer red flags.

[82] U.S. Department of the Treasury, "2005 Financial Report of the United States" (Washington, D.C.: U.S. Department of the Treasury, 2005), https://www.fiscal.treasury.gov/files/reports-statements/financial-report/05frusg.pdf; U.S. Department of the Treasury, "2004 Financial Report of the United States" (Washington, D.C.: U.S. Department of the Treasury, 2004), https://www.fiscal.treasury.gov/files/reports-statements/financial-report/04frusg.pdf.

[83] Patrick E. Shea, "Financing Victory: Sovereign Credit, Democracy, and War," *The Journal of Conflict Resolution* 58, no. 5 (2014): 771–95, https://www-jstor-org.libproxy.nps.edu/stable/24545589?seq=1#metadata_info_tab_contents.

Table 3. U.S. Treasury Debt Assessment[84]

U.S. Treasury Debt Assessment	
2000	sustainable
2001	sustainable
2002	sustainable
2003	sustainable
2004	unsustainable
2005	unsustainable
2006	unsustainable
2007	unsustainable
2008	unsustainable
2009	unsustainable
2010	unsustainable
2011	unsustainable
2012	unsustainable
2013	unsustainable
2014	unsustainable
2015	unsustainable
2016	unsustainable
2017	unsustainable
2018	unsustainable
2019	unsustainable
2020	unsustainable

However, the Treasury's assessment may or may not translate into policy action. The Secretary of the Treasury has been a traditional member of the National Security Council (NSC) since its inception following World War II. Therefore, a clear means of communicating the Treasury's assessment to the NSS exists, yet it remains absent from strategic publications. The Treasury itself has not filled this gap in any of its publications. It might be that debt is thought to be encompassed under the generalized concept of economic health, which is addressed more consistently in the NSS. However, the U.S. debt represents a sum equal to the entire U.S. economic output in 2012 and is growing. Therefore, it appears to have at least similar strategic value as general economic health. Nonetheless, strategic plans from the Treasury or Federal Reserve provided little discussion regarding debt's impact on U.S. interests. It is concerning that neither the NSC, nor U.S. Treasury, nor the U.S. Federal Reserve appear to incorporate debt policy into a strategic context.

[84] Adapted from Bureau of the Fiscal Service, "Financial Report of the United States Government," U.S. Department of the Treasury, accessed February 9, 2022, https://www.fiscal.treasury.gov/reports-statements/financial-report/previous-reports.html.

2. Chinese Strategic Doctrine

China's strategic literature is also ambivalent about any advantages or disadvantages of debt holding debt for its interactions with the United States. The 14th Five-Year plan (2021-2025), published in 2021, makes little mention of Chinese holdings of U.S. debt.[85] The plan does indicate some initiatives to restructure the Chinese economy to be more self-sufficient but does not identify its ownership of U.S. securities as a line of effort. Self-sufficiency is also a common theme introduced in the "Made in China 2025" industrial policy introduced in 2015, but again foreign debt instruments are not mentioned.[86] In its translated strategic economic documents, China does not appear to publicly state any concern over its U.S. debt holdings or their implications for Chinese interests. A United States Department of Defense (DOD) analysis of China's strategy highlights China's efforts to reduce its reliance on the U.S. economy, but debt is not considered a mechanism of concern.[87] The DOD expects the next decade will consist of Chinese military and economic advancement but provides no further detail regarding the expected role of specific economic mechanisms in the execution of Chinese foreign policy.

Secondary sources generally agree that China perceives U.S. debt from a purely economic standpoint. Bernanke, Mann, and Norrlof agree that China uses U.S. debt as a safe place to store the country's accumulated wealth.[88] While China may be content with the business side of the arrangement, it is somewhat surprising that it relies on a potential competitor for finance services. Nonetheless, as the Director-General of China's Banking Regulation Commission, Luo Ping, stated in 2009,

> Except for U.S. Treasuries, what can you hold?...Gold? You don't hold Japanese government bonds or UK bonds. U.S. Treasuries are the safe

[85] Center for Security and Emerging Technology, "CSET Original Translation: China's 14th Five-Year Plan," CSET, March 13, 2021, https://cset.georgetown.edu/publication/china-14th-five-year-plan/.

[86] Karen M Sutter, "Made in China 2025" Industrial Policies: Issues for Congress, CRS Report No. IF10964 (Washington, D.C.: Congressional Research Service, 2020), https://crsreports.congress.gov/product/pdf/IF/IF10964.

[87] Department of Defense, "Military and Security Developments Involving the People's Republic of China" (Washington, D.C.: Department of Defense, 2021), IV, https://media.defense.gov/2021/Nov/03/2002885874/-1/-1/0/2021-CMPR-FINAL.PDF.

[88] Bernanke, "The Global Savings Glut"; Mann, "The First Failed Empire of the 21st Century"; Norrlof, "Dollar Hegemony."

> haven. For everyone, including China, it is the only option…We hate you guys. Once you start issuing $1 trillion-$2 trillion…we know the dollar is going to depreciate, so we hate you guys but there is nothing much we can do.[89]

China assuredly has concerns over U.S. economic behaviors and the additional risks these actions might entail. However, in the absence of a viable alternative, China continues to buy U.S. debt for its financial utility. Therefore, evidence suggests U.S. debt most likely represents a convenient financial solution for China, rather than a political lever.

A conclusive statement regarding the role of U.S. debts in Chinese foreign policy is problematic for a few reasons. First, this project relies on translated sources that limit the sources available. Second, Chinese documents appear visionary and do not possess the details required to come to a solid conclusion. Like U.S. strategic literature, Chinese doctrine and policy do not provide conclusive evidence regarding the effects of U.S. debts on U.S.-Chinese interactions. However, secondary sources indicate that China's strategic view of U.S. debt is as an economic necessity rather than an economic weapon.

3. Constraints on Aggressive Actions

The analysis also did not find a connection between the U.S. or China's debt relationship and constraints on their behavior. First, one area of aggressive interaction between the two counties is in Freedom of Navigation Operations (FONOPS), which have increased over the last decade. Both the U.S. Department of Defense and the 7th Fleet Headquarters indicate that FONOPS are conducted to exercise rights under international law and combat frivolous territorial claims.[90] Debt is not mentioned in their statements and no evidence has been found to support a connection. Additionally, Wang finds that military

[89] Henny Sender, "China to Stick with U.S. Bonds," *Financial Times*, February 11, 2009, https://www.ft.com/content/ba857be6-f88f-11dd-aae8-000077b07658.

[90] U.S. Department of Defense, "Annual Freedom of Navigation Report: Fiscal Year 2020" (Washington, D.C.: U.S. Department of Defense, 2020), https://policy.defense.gov/Portals/11/Documents/FY20%20DoD%20FON%20Report%20FINAL.pdf; United States Navy, "7th Fleet Conducts Freedom of Navigation Operation," United States Navy, July 12, 2021, https://www.navy.mil/Press-Office/News-Stories/Article/2690226/7th-fleet-conducts-freedom-of-navigation-operation/.

exercises in the South Pacific have increased for both the United States and China.[91] Thus, evidence does not support any connection to the debt dynamics.

The tit-for-tat exchange of tariffs known as the U.S-China Trade War has the highest prospect for a connection to U.S.-China debt dynamics due to its connection to economic factors. Simon and Zhu indicate that the tariff exchange was an escalation from U.S. complaints against Chinese trade practices of currency manipulation, intellectual property rights infringement, and cyber-attacks.[92] Again, sources did not yield evidence that the most recent aggressive economic exchange between the two powers had a connection to debt. Debt may have an indirect relationship with the three cases briefly discussed but the evidence was not in any way conclusive.

4. Credit Access Constraints

Government statements and documents did not produce compelling evidence that U.S. debt has constrained U.S. or Chinese strategies or policies. The analysis now shifts to theoretical frameworks. The next two sub-sections use theoretical frameworks to provide additional insights into debt's impact on U.S.-China interactions.

The first theoretical discussion draws from Shea and Poast's application of Democratic Advantage theory.[93] They propose that a state's access to credit dictates its freedom to pursue its security interests.[94] Their theory contends that democracies provide transparency and confidence in the government, which creates an asymmetry in finance between democracies and other forms of government.[95] Shea adds that democracies are more beholden to their constituents and, therefore, prefer to use credit to finance security efforts rather than employing unpopular measures such as tax increases or increasing the

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[91] Howard Wang, "Measuring Chinese Aggression: Military Exercises as Cost Imposition on Alignment with the United States," Georgetown University-Graduate School of Arts & Sciences (thesis, Georgetown University, 2019), https://repository.library.georgetown.edu/handle/10822/1055061.

[92] Simon Lester and Huan Zhu, "The U.S.-China Trade War: Is There an End in Sight?," *CATO Journal* 40, no. 1 (2020): 20, ProQuest.

[93] Patrick E. Shea and Paul Poast, "War and Default," *Journal of Conflict Resolution* 62, no. 9 (October 2018): 1876–1904, https://doi.org/10.1177/0022002717707239.

[94] Shea and Poast.

[95] Shea and Poast.

monetary supply.[96] Shea and Poast argue that a state's access to credit makes it less constrained in acting aggressively toward competitor states.[97] Conversely, states that do not have free access to credit are more constrained, and therefore more likely to avoid conflicts. Based on this theory, we would expect that the United States, a democracy, would have more access to credit—and, consequently, more debt—and, as a result more freedom of action to pursue its security interests. We would expect China, a non-democracy, to have less access to credit, less debt, and less freedom of action. These theory-based expectations align with hypothesis 3, but challenge hypothesis 4.

Analyzing internal tax revenues and finance preference highlights any difference in credit access between the U.S. and China. Figure 13 displays trends in U.S. debt levels, and tax revenues. The graph shows tax receipts are decreasing while debt levels rise, indicating that, after 2008, increasingly larger shares of spending needed to be covered with credit. This is puzzling, as Figure 13 covers the Vietnam War, Desert Storm, Iraq, and Afghanistan. Expensive U.S. military expeditions were taking place while tax revenues were falling. Falling tax receipts coupled with increased debt support Poast and Shea's expectations that democratic countries such as the United States prefer financing its deficits with credit.[98] The fact that debt continues to rise rapidly indicates that the United States continues to have access to inexpensive credit. Therefore, U.S. access to cheap credit does not appear to be changing. This access to credit allows the United States to act aggressively towards its competitors, including China, without fiscal constraints, supporting Hypothesis 3.

[96] Shea, "Financing Victory: Sovereign Credit, Democracy, and War."

[97] Shea and Poast, "War and Default."

[98] Shea, "Financing Victory: Sovereign Credit, Democracy, and War."

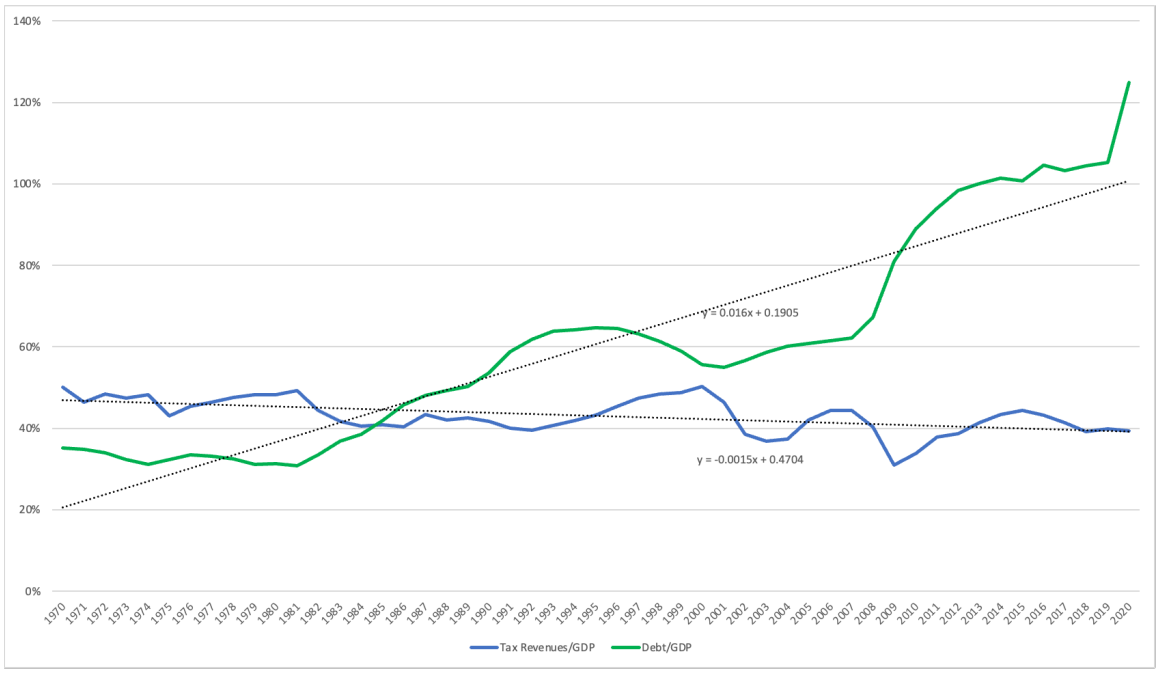

Figure 13. U.S. Tax Revenue and Spending Data[99]

Chinese government debt displays a similar trend. Figure 14 plots Chinese saving rates, government debt, and tax revenues (which are only available from 2005–2018). China's rising debt level shows increased use of credit financing. Its level of indebtedness is not yet comparable to the United States, but its debt levels are growing. Figure 14 also displays Chinese savings rates which have been roughly 1.5 times higher than the global average for the past decade. China's domestic savings represents a large domestic financing capacity that is not available to the United States, which allows China to mitigate any disadvantages it has in credit markets. Paired with its large currency reserves, which mostly consist of USDs, this provides a large fiscal reserve that makes its credit access less restrictive for its security efforts. Therefore, China's fiscal flexibility to include its credit access, domestic savings, and foreign reserves, allows it to freely pursue aggressive policies. This challenges Democratic Advantage theory, but supports the hypothesis.

[99] Adapted from St. Louis Federal Reserve, "Federal Government Current Tax Receipts," FRED, November 24, 2021, https://fred.stlouisfed.org/series/W006RC1Q027SBEA.

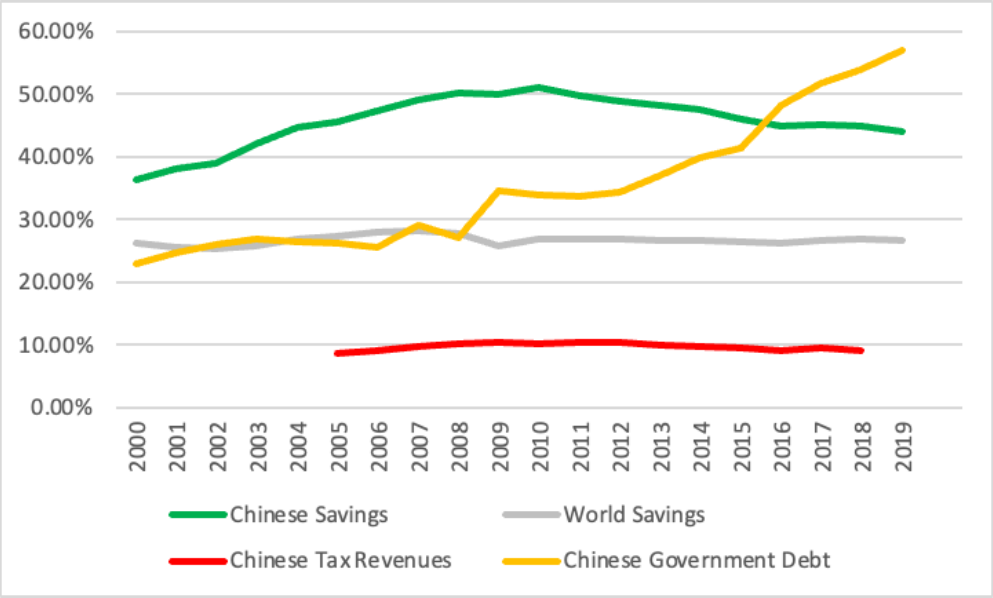

Figure 14. China Debt, Savings, and Tax Data[100]

A second metric to evaluate the United States and China's credit access is credit ratings. Table 4 displays a history of credit ratings for both the U.S. and China. The data shows that U.S. credit ratings have maintained a prime (highest) rating in three of the four rating agencies for the past two decades. One agency, Moody's, downgraded U.S. credit to AA+ in 2011. The downgrade of U.S. credit aligns with the enacting of the BCA and the resulting sequestration and default battles in Congress. However, the United States continues to be in a strong position for obtaining credit. Consequently, the United States is likely to continue accumulating debt at favorable rates. Cheap financing allows it to act in an unconstrained manner in the national security arena, at least in the near term.

On the other hand, China has significantly increased its credit rating from lower-medium grade ratings in 2000 to stable upper-medium grade ratings in 2020. China exhibited a period of several consecutive rating upgrades from 2003 to 2010, followed by

[100] Adapted from World Bank, "Tax Revenue (% of GDP) – China," World Bank, accessed January 10, 2022, https://data.worldbank.org/indicator/GC.TAX.TOTL.GD.ZS?locations=CN; World Bank, "Gross Domestic Savings (Current US$) – China," World Bank, accessed January 10, 2022, https://data.worldbank.org/indicator/NY.GDS.TOTL.CD?end=2020&locations=CN&start=2000; World Bank, "GDP (Current US$) – China, World, United States"; World Bank, "Debt Data," World Bank, accessed August 12, 2021, https://datatopics.worldbank.org/debt/.

a downgrade in 2016. *The Wall Street Journal* indicates the upgrades were products of low Chinese debt levels and high economic growth.[101] *The Wall Street Journal* and *Reuters* then reported that concerns over rising Chinese debt coupled with slowed economic growth led to downgrades in 2016.[102] China's credit ratings show that it has made significant progress in improving its ability to access international credit on favorable terms despite remaining non-democratic. The U.S. maintains an advantage in credit access for the near term, but any credit advantage does not appear to be a long-term certainty. China's accumulation of U.S. debt has not caused the upgrades in credit ratings, but it does not appear to have hurt either.

The credit ratings show China gaining ground but do not necessarily indicate a U.S. decline in access to credit. As U.S. debt levels continue to rise, U.S. credit ratings remain consistent. The exception was after the passing of the BCA confidence in U.S. debt was reduced, yielding a downgrade, albeit in only one credit rating agency. China has exhibited more dynamic improvement reflecting wider acceptance of its domestic debt as secure. A democratic advantage does appear to still be present with U.S. ratings being higher and more stable over time, but it is equally clear that Chinese ratings do not preclude it from using credit if it desires. In addition, China maintains domestic savings rates much higher than the United States, which when paired with an economy that will pass the United States' economy in size, could mitigate any advantage the United States may have in its ability to attract credit for unconstrained national security actions. U.S. debt levels have not yet shifted credit markets to disadvantage the U.S., but it does appear that any credit advantage is becoming less apparent. Higher debt levels have continued to allow the United States to be unconstrained and have mitigated any disadvantage China may have in credit markets, which also reduces constraints on China. Therefore, credit access supports both Hypotheses 3 and 4.

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[101] Aaron Black, "S&P Upgrades China's Credit Rating," *Wall Street Journal*, December 16, 2010, https://www.wsj.com/articles/SB10001424052748703395204576023000655647160.

[102] BBC, "Moody's Cuts China's Credit Rating for First Time since 1989," BBC News, May 24, 2017, https://www.bbc.com/news/business-40024503; Reuters, "S&P Downgrades China's Rating, Citing Increasing Economic, Financial Risks | Reuters," Reuters, September 21, 2017, https://www.reuters.com/article/us-china-economy-rating-downgrade/sp-downgrades-chinas-rating-citing-increasing-economic-financial-risks-idUKKCN1BW19N.

Table 4. U.S.-China Credit Ratings 2000–2020[103]

	S&P	Moody's	Fitch	DBRS	S&P	Moody's	Fitch	DBRS
2000	AAA	Aaa	AAA		BBB	A3	A-	
2001	AAA	Aaa	AAA		BBB	A3	A-	
2002	AAA	Aaa	AAA		BBB	A3	A-	
2003	AAA	Aaa	AAA		BBB	A2 ↑	A-	
2004	AAA	Aaa	AAA		BBB+ ↑	A2	A-	
2005	AAA	Aaa	AAA		A- ↑	A2	A ↑	
2006	AAA	Aaa	AAA		A ↑	A2	A	
2007	AAA	Aaa	AAA		A ↑	A1 ↑	A+ ↑	
2008	AAA	Aaa	AAA		A+ ↑	A1	A+	
2009	AAA	Aaa	AAA		A+	A1	A+	
2010	AAA	Aaa	AAA		AA- ↑	Aa3 ↑	A+	
2011	AA+ ↓	Aaa	AAA	AAA	AA-	Aa3	A+	
2012	AA+	Aaa	AAA	AAA	AA-	Aa3	A+	
2013	AA+	Aaa	AAA	AAA	AA-	Aa3	A+	
2014	AA+	Aaa	AAA	AAA	AA-	Aa3	A+	A(high)
2015	AA+	Aaa	AAA	AAA	AA-	Aa3	A+	A(high)
2016	AA+	Aaa	AAA	AAA	AA-	Aa3	A+	A(high)
2017	AA+	Aaa	AAA	AAA	A+ ↓	A1 ↓	A+	A(high)
2018	AA+	Aaa	AAA	AAA	A+	A1	A+	A(high)
2019	AA+	Aaa	AAA	AAA	A+	A1	A+	A(high)
2020	AA+	Aaa	AAA	AAA	A+	A1	A+	A(high)

The last measure aims to connect trends in credit behavior to aggressive behavior between China and the United States. If increases in aggressive behavior coincide with greater credit access, then it supports the notion that debt removes constraints on national security policy decisions. Vision of Humanity indexes 163 countries' peacefulness across multiple dimensions including military expenditures, external conflict, and casualties of war.[104] The ratings fall between one to five, with one being the most peaceful and five being the least peaceful. Figure 15 plots the index ratings for the United States, China, and the world average from 2009 to 2021. The figure shows that the United States and China's index scores are similar. There is some divergence beginning in 2016, but the difference does not exceed a quarter of a point on the rating scale. Howard Wang shows that U.S. military exercises in the South Pacific decreased from 2012 to 2018, while Chinese

[103] Adapted from World Government Bonds, "World Credit Ratings," World Government Bonds, accessed December 15, 2021, http://www.worldgovernmentbonds.com/world-credit-ratings/.

[104] Vision of Humanity, "Global Peace Index Map," Vision of Humanity, accessed January 9, 2022, https://www.visionofhumanity.org/maps/.

exercises in the same region increased.[105] This trend suggests that asymmetries in access to credit have not constrained China's ability to act aggressively.

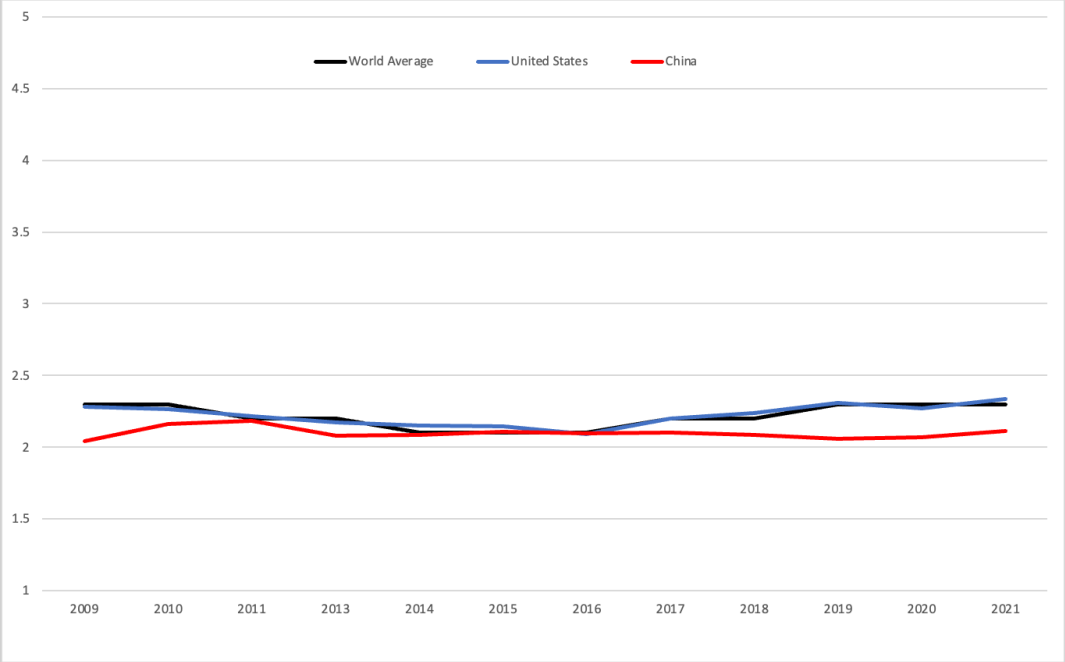

Figure 15. U.S. China Peace Index Ratings[106]

The Democratic Advantage lens helps compare the potential for debt, as credit, to constrain a democratic United States to a non-democratic China. The data confirms that the U.S. maintains an advantage, although somewhat diminished, in access to credit for funding its endeavors, which reduces short-term financial constraints on its security actions abroad. However, the theory's proposal that this makes the U.S. more aggressive, and the Chinese less aggressive, does not hold up. China's access to credit has been improving despite its large holdings of U.S. debt. Its holdings of U.S. debt provide liquidity which along with its domestic funding capacity mitigates any disadvantage it may have in global credit markets. The theory would expect that China is more constrained by its lack of credit access, but the analysis of this case supports the position that U.S. debt has not negatively

[105] Wang, "Measuring Chinese Aggression."

[106] Adapted from Vision of Humanity, "Global Peace Index Map."

affected either the United States or China's access to credit, and therefore, does not constrain their actions abroad.

5. Debt as an Incentive for Peace

U.S.-China relations are often viewed through Graham Allison's "Thucydides Trap" framework.[107] Allison's idea is rooted in one of the central themes of Thucydides' account of the Peloponnesian War. Thucydides states, "what made war inevitable was the growth of Athenian power and the fear which this caused in Sparta."[108] Allison explains that an inevitable tension develops as one power rises to compete with the legacy power, making the risk of war between the two parties high.[109] This thesis labels the United States as the legacy power and China as the rising power. Allison contends that in the past 500 years, sixteen instances of competing major powers have occurred, and twelve ended in war, which does not bode well for U.S.-China relations.[110] However, Allison admits war is not predestined as shown by the peaceful conclusion of the Cold War.[111]

Economic factors, to include debt, may create sufficient leverage to dissuade both sides from conflict. Oneal and Russett propose that economic interdependence can have a deterrent effect that they describe as "the pacific benefits of commerce."[112] Oneal and Russett's work focused on economic relations between democracies, but it follows that rational actors would consider economic costs before engaging in conflict with a trade partner regardless of the type of government.[113] Debt appears to be a factor contributing

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[107] Graham Allison, "The Thucydides Trap," in *The Next Great War?: The Roots of World War I and the Risk of U.S.-China Conflict*, ed. Richard N. Rosecrance and Steven E. Miller (Cambridge, MA: MIT Press, 2014), 73–80.

[108] Thucydides, *History of the Peloponnesian War*, trans. Rex Warner (New York: Penguin Books, 1954), 49.

[109] Allison, "The Thucydides Trap."

[110] Graham Allison, *Destined for War: Can America and China Escape Thucydides's Trap?* (Boston, MA: Houghton Mifflin Harcourt, 2017), xvii.

[111] Allison, "The Thucydides Trap."

[112] John R. Oneal and Bruce M. Russett, "The Classical Liberals Were Right: Democracy, Interdependence, and Conflict, 1950–1985," *International Studies Quarterly* 41, no. 2 (1997): 271, https://www.jstor.org/stable/3013934.

[113] Oneal and Russett, "The Classical Liberals Were Right."

to economic interdependence between the United States and China. Allison states economic interdependence can create a condition called mutually assured economic destruction (MAED), which pulls from nuclear deterrence theory's mutually assured destruction (MAD).[114] The subsequent analysis investigates if a MAED condition exists between the United States and China and if debt is a significant factor in this dynamic. If debt contributes to a MAED like condition, then debt would constrain both the United States and China's policies abroad.

A simple model using the total value of trade, foreign currency reserves, and debt tests the presence of a MAED deterrent. The model assumes that the full value of each sector is at risk if war breaks out, which is a significant assumption. However, the model does not factor in second-order effects or specific supply chain dependencies, which would offset the ability to salvage portions of the three chosen variables. In addition, the model is designed as a litmus test. A future project could yield a higher fidelity model allowing for more detailed analysis and conclusions.

The first factor is U.S.-China trade relations. Figure 16 plots the value of U.S.-Chinese trade from 2000 to 2020. The plot shows three important trends. First, total trade has increased between the two counties with small reductions in 2008 corresponding to the U.S. recession and 2018 in response to the U.S.-China Trade War. Trade value does not appear to be decreasing, which supports a continued economic incentive against conflict. Next, trade with the United States is becoming a smaller share of the Chinese economy. It peaked in 2006 at 13% of China's GDP but has since declined to 4% of China's GDP in 2020. Chinese economic growth is responsible for a portion of this trend, but China also appears to be less reliant on U.S. trade. Figure 17 captures this trend by showing that trade with the United States represents a smaller portion of China's total trade. Lastly, the United States shows a somewhat opposite trend. Trade with China is growing relative to both total U.S. trade and the U.S. economy. These trends indicate that both nations are becoming

[114] Allison, *Destined for War*, 211.

equally reliant on each other for trade, reducing any asymmetrical advantage by either side. Therefore, both sides have a trade incentive that can limit their appetite for competitive policies. In the early 2000s China had more to lose in this regard and would be more constrained, but as the data shows this trend is reversing and the U.S. and China see similar magnitude of trade disincentives.

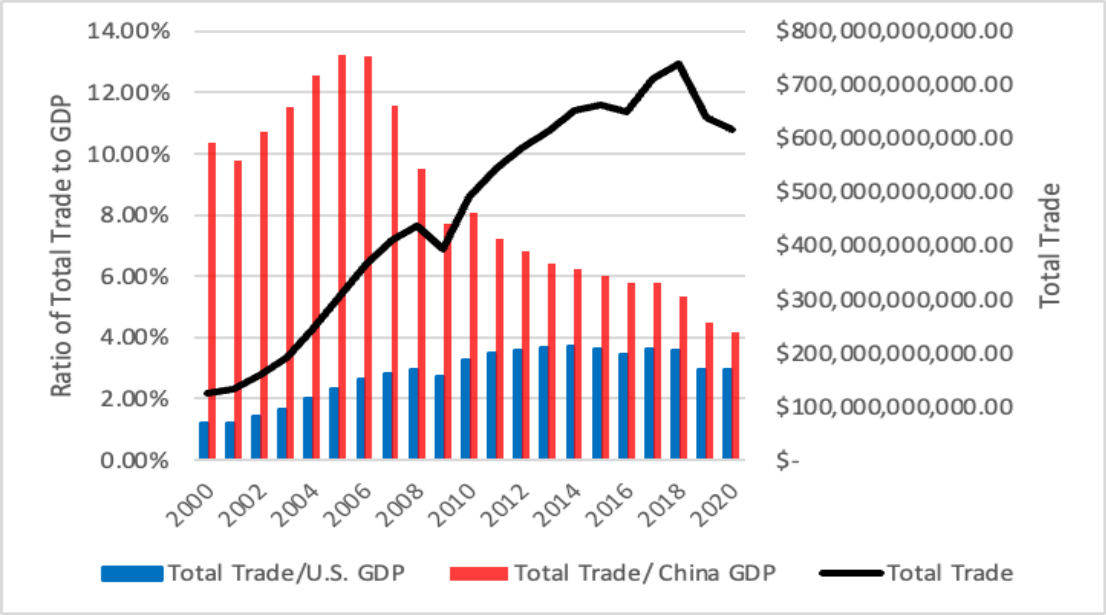

Figure 16. U.S.-China Trade Relations[115]

[115] Adapted from U.S. Bureau of Economic Analysis, "International Trade in Goods and Services," BEA, accessed December 23, 2021, https://www.bea.gov/data/intl-trade-investment/international-trade-goods-and-services; World Bank, "GDP (Current US$) – China, World, United States."

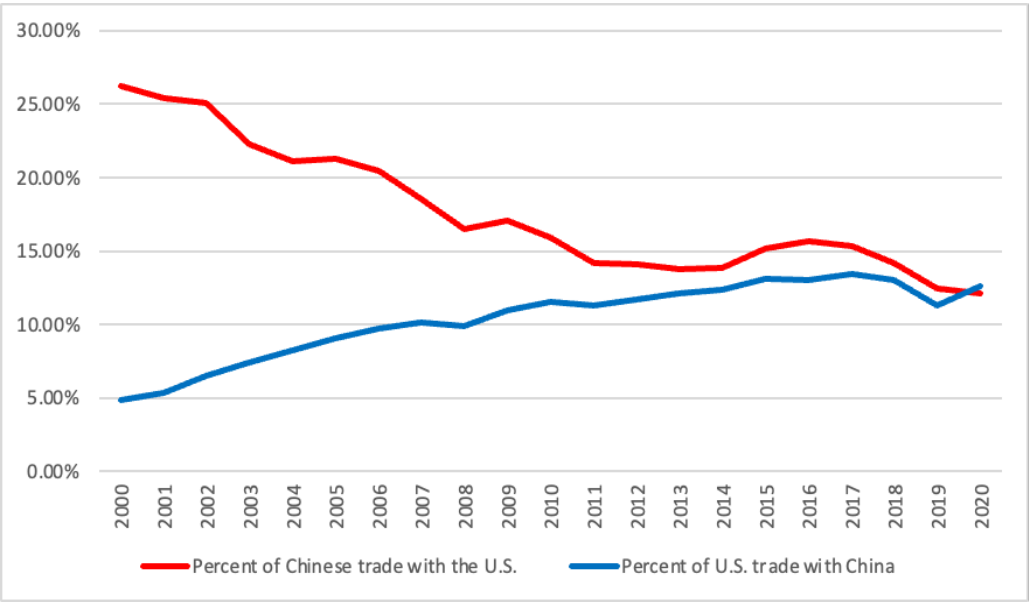

Figure 17. U.S.-China Trade Dependence[116]

The second factor considered is Chinese holdings of USD reserves. Reserve holdings hold both nations at risk by threatening the asset directly for China and threatening control over USD monetary supply for the United States. Exact figures on China's holdings are not publicly available, but estimates extrapolated from foreign exchange market (FOREX) trading and government sources place the expected percentage of dollar reserves between 50% and 60%.[117] The World Bank also uses FOREX records to approximate total Chinese foreign reserves, as shown in Figure 18. Figure 18 plots the expected value of China's USD reserves using the more conservative 50% estimate. The data show stagnation in total USDs held by the Chinese after 2013. Also, the value relative to China's GDP has decreased since 2009. Like trade, USD reserves show that China is showing signs of

[116] Adapted from U.S. Bureau of Economic Analysis, "International Trade in Goods and Services"; World Bank, "Imports of Goods and Services (Current US$)," World Bank, accessed February 10, 2022, https://data.worldbank.org/indicator/NE.IMP.GNFS.CD?locations=CN; World Bank, "Exports of Goods and Services (% of GDP)," World Bank, accessed December 13, 2021, https://data.worldbank.org/indicator/NE.EXP.GNFS.ZS?end=2020&locations=CN-1W&most_recent_value_desc=true&start=2001.

[117] Zhou Xin, "China Gives up Two of Its Best-Kept Forex Reserve Secrets: Investment Return and Share of U.S. Dollar Assets Disclosed for the First Time, but Only up to End of 2014," *South China Morning Post*, July 30, 2019, ProQuest; Weizhen Tan, "China Is Building up Its 'shadow Reserves' to Counter Its Reliance on the U.S. Dollar," CNBC, November 18, 2019, https://www.cnbc.com/2019/11/18/china-diversifying-fx-reserves-assets-to-counter-us-dollar-exposure.html.

decoupling its connections to the U.S. economy, but at over $1.5 trillion it still represents a sizeable sum.

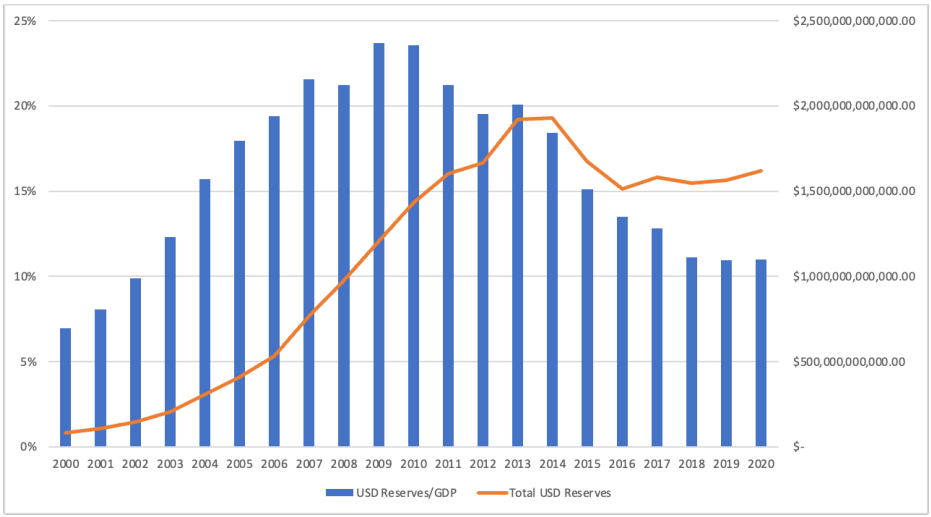

Figure 18. Approximate Chinese USD Reserves[118]

The third factor is Chinese held U.S. debt, which is discussed at length in the first chapter. However, Figure 19 plots Chinese-owned securities to review some of the trends for this chapter. The trend in securities is similar to the trends for trade and foreign reserves. Chinese accumulation of U.S. debt has stagnated, if not declined slightly, and is becoming a smaller share relative to its economy. Figure 20 shows all three factors combined on one plot. As expected, the three factors combine to show the same stagnation seen individually. However, even if interdependent factors have stagnated, they represented $3.3 trillion in 202, with debt representing about a third of the value. A value of this size would likely result in a long pause before either nation went to war as neither country would want to jeopardize it future economic prospects. Therefore, the analysis suggests that debt can potentially impose an upper limit to U.S. or Chinese aggressive action, which challenges Hypothesis 3 and 4.

[118] Adapted from World Bank, "Total Reserves Minus Gold (Current US$) – China," World Bank, accessed February 10, 2022, https://data.worldbank.org/indicator/FI.RES.XGLD.CD?end=2020&locations=CN&start=2000; World Bank, "GDP (Current US$) – China, World, United States."

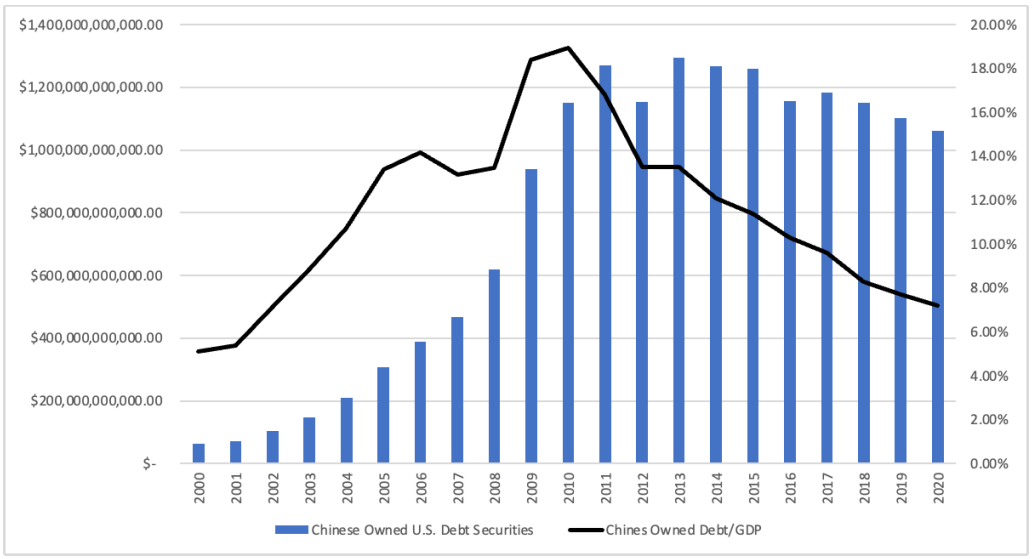

Figure 19. Chinese-Owned U.S. Debt Securities[119]

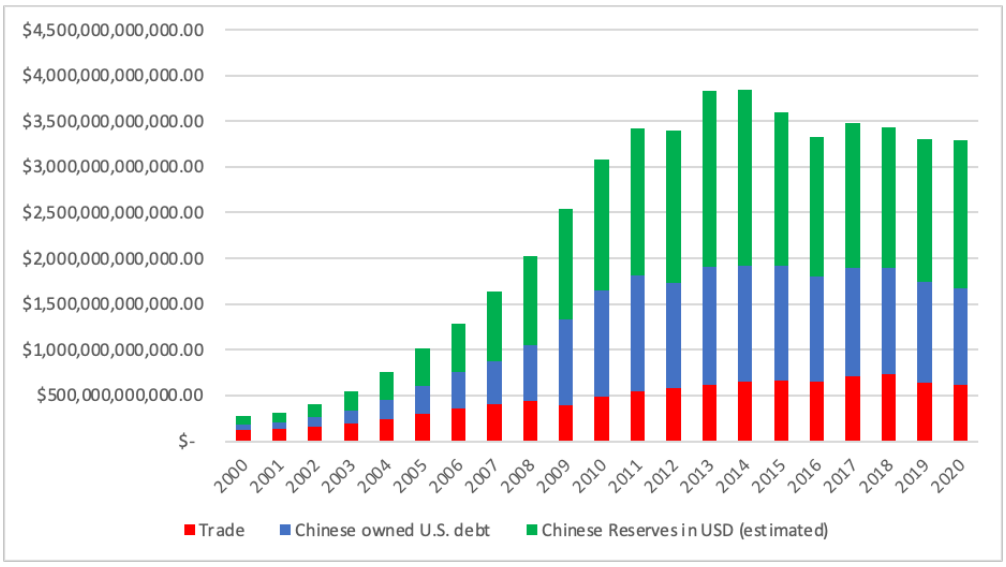

Figure 20. U.S.-China Economic Interdependence

[119] Adapted from "Portfolio Holdings of U.S. and Foreign Securities," U.S. Department of the Treasury, accessed January 25, 2022, https://home.treasury.gov/data/treasury-international-capital-tic-system-home-page/tic-forms-instructions/securities-b-portfolio-holdings-of-us-and-foreign-securities.

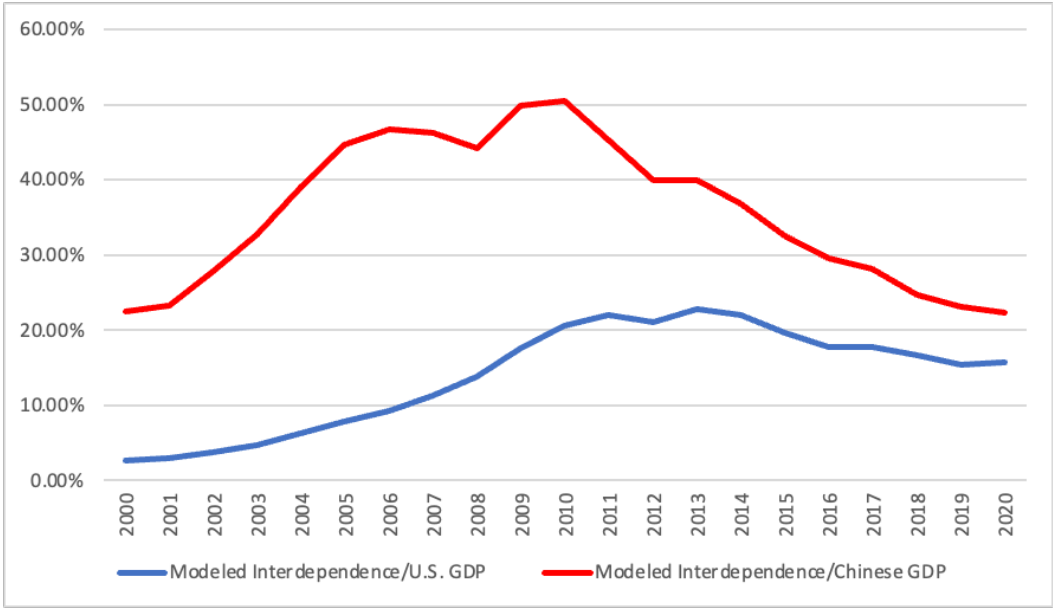

Figure 21. U.S.-China Economic Interdependence/GDP

Figure 21 shows the total values from Figure 20 but relative to the United States and China's respective GDPs. It shows the relative importance of interdependent relations is converging for both nations. The model is simplistic, limiting the precision of conclusions. However, it appears clear that asymmetries in interdependent economic relations are disappearing, and a peer-peer relationship is developing. For comparison, the level of economic interdependence represents roughly three times the U.S. economic losses of the recession in 2008.[120] Therefore, as a litmus test, the model shows that debt is a potentially significant factor in U.S.-China economic relations and that the magnitude of U.S.-Chinese economic interdependence is at least a strong incentive against open conflict. It is not certain that economic factors will prevent a conflict as competitive feelings between the two nations increase, but the economic disincentive likely will place some upper limit on aggressive actions.

Economic interdependence is not an insurmountable constraint, but rather a barrier that would be difficult to disregard. Mastro cautions that "while closer economic ties are

[120] Federal Reserve Bank of San Francisco, "What Is the Difference between a Recession and a Depression?," Federal Reserve Bank of San Francisco, 2007, https://www.frbsf.org/education/publications/doctor-econ/2007/february/recession-depression-difference/.

more promising for peace than a lack of interdependence, it is important to recognize that such ties are not a silver bullet. If national security is seen to be at risk, leaders are usually more willing to absorb the economic costs of conflict than the political costs of concession."[121] Mastro's point is well taken that economic influence has limits, but the relationship appears more complex. If either nation threatened the other's security, then they would also be putting their economic security at risk. An economic security dilemma should disincentivize conflict; however, tensions continue to rise between the two nations, and miscalculation and misinterpretation could overcome any deterrent value from economics and debt dynamics.

The Thucydides Trap framework contends that conflict between global powers is difficult to avoid, but economic interdependence may provide a way out for the case of the United States and China. The framework highlights two points regarding the hypothesis as it relates to competition between the United States and China. First, debt shapes national security decisions by encouraging competitive behavior and discouraging open conflict. Second, the MAED analogy can falsely characterize economic linkages as pseudo-nuclear options that are so severe that they will prevent war. U.S. debt does contribute to a meaningful economic deterrent but may not be sufficient to overcome U.S. or Chinese political ambitions. Debt acts as a barrier but not a hard constraint on aggressive behavior.

D. CONCLUSION

Debt does not appear to drive security policy for either China or the United States. Both countries largely ignore the debt dynamic between them in their strategic publications. Secondary sources provide some analysis. In addition, debt does not appear to have any role in the competitive trade war, FONOPS, or military exercises. As shown in the previous Chapter U.S. public debt affects the funding for these efforts, but it has not translated into either country's strategic publications.

[121] Oriana S. Mastro, "In the Shadow of the Thucydides Trap: International Relations Theory and the Prospects for Peace in U.S.-China Relations," *Journal of Chinese Political Science* 24, no. 1 (2019): 33, https://doi.org/10.1007/s11366-018-9581-4.

Access to credit allows the U.S. and China to have more agency in their interactions. Democratic Advantage theory would expect the United States to have better access to credit, which would lead to more aggressive policies. However, the evidence shows that U.S. credit advantages are narrow, and China has other mitigators that help make up the difference. An equal credit situation allows both nations to freely pursue policies preventing an asymmetry that allows one to act more aggressively than the other.

Lastly, debt contributes to an economic deterrent against conflict. This appears to be at odds with the previous finding. However, this point emphasizes the nuance of U.S.-China debt dynamics. Both nations have access to credit to fund their policy positions, but a large portion of the U.S. credit comes from China. China will not continue buying U.S. securities if conflict breaks out, and under the same circumstances, the U.S. will not pay interest on Chinese-owned securities. The U.S. may find other creditors to maintain its level of borrowing, but conflict appears to be a lose-lose proposition for U.S.-China debt relations. Therefore, U.S. debt contributes to an economic deterrent against conflict; however, economic deterrents do not outright forbid conflict only serve as a barrier.

IV. CONCLUSION

A. FINDINGS

This section synthesizes the findings from the previous chapters, providing an answer to the research question. First, and most directly related to the research question, the data shows mixed results regarding U.S. debts affect national security efforts. Chapter two shows that the most recent legislative response to U.S. debt, the Budget Control Act of 2011 (BCA), caused reductions in funding for national security. The legislation caused an inflection point in defense spending. Before 2010, U.S. debt and defense spending shared a positive correlation, and following 2010, a negative correlation emerged. The BCA intended to reduce debt through forced cuts in discretionary spending but only succeeded in reducing defense spending while U.S. debt levels continued to climb. In addition, the BCA fostered volatility in the Congressional budgetary process which only increases the risks associated with supporting a large public debt. Overall, the act failed to reduce the debt and at least temporarily caused a dip in funding for national security initiatives.

Second, and tempering the previous conclusion, debt does not appear to be a catastrophic concern in the near term. Although debt negatively impacted defense spending, fears of debt leading to an economic collapse that in turn, would threaten national security are unfounded. Many of these concerns stem from the misapplication of a mortgage model, whereby the United States has no agency in the manner its debt are repaid. But government debt operates differently. Most notably, the United States controls the USD, which is the denomination currency of its public debts. The USD continues to be the most widely used and accepted currency worldwide. Even China's economic power has proven insufficient to divorce the state from the USD, as BRI and AIIB conduct most of their financing efforts in USDs and not RMBs. The USD's status as the preferred global currency keeps U.S. debt, which is denominated in dollars, in demand both domestically and abroad. In addition, USD debt assets pose less risk to the United States than to its creditors because it always has the option of producing more dollars to pay its debts.

Next, the analysis found that the USD will likely remain the dominant global currency in the near-term. Recent debates raise concerns that China's economic power will allow the RMB to compete with the USD. Both the RMB's inclusion in the IMF SDR basket and China's rapid economic growth signal an increase in the RMB's international appeal. However, the RMB has not come close to challenging the USD in usage, as seen by global currency reserve and FOREX market trading. China's opaque political control of its economic systems continues to be a concern for the international community. It is unclear if China is willing to make the necessary political concessions to advance its currency's appeal in the long term, but it appears unlikely in the near term. Therefore, the USD will remain the global reserve currency, which is beneficial for supporting a large public debt. However, as U.S. global economic hegemony appears to slip into a multipolar world, the longevity of USD primacy is not guaranteed.

U.S. debt has mixed results for constraining U.S.-Chinese interactions. Both countries largely ignore U.S. debt in their strategic policy documents. This is somewhat puzzling as the Chinese own a significant portion of U.S. debt, which suggests that debt should be a meaningful factor in the interactions between the two nations. Nonetheless, the analysis of the recent U.S.-China trade war and U.S. military operations shows that U.S. debt has not been a consideration for either effort. Evidently both nations do not consider debt a strategic priority.

Economic factors can incentivize countries to avoid conflict, but surprisingly, debt has not made its way into either the United States or China's strategic publications. The value of the U.S. debt represents a sum greater than the annual output of the entire U.S. economy and is only getting larger. And yet, the United States has not integrated debt policy to support its national strategic objectives. The closest product is the annual financial reports produced by the United States Department of the Treasury. However, this annual report simply relays the status of U.S. public debt rather than considering how debt affects the national strategy. Debt is treated as an afterthought but should be reconciled at the strategic level.

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value of the U.S. debt represents a sum greater than the annual output of the entire U.S. economy and is only getting larger. And yet, the United States has not integrated debt policy to support its national strategic objectives. Norrlof, Mann, and Bernanke agree that prospects of China weaponizing U.S. debt are unlikely, but this does not absolve the United States from reconciling debt at the strategic level.[122] The closest product the United States produces is its annual financial reports published by the United States Department of the Treasury. However, this annual report simply relays the status of U.S. public debt rather than considering how debt affects the national strategy. Debt is treated as an afterthought but should be reconciled at the strategic level.

Theoretical frameworks provide additional insight into the extent to which debt can influence interactions between two competitors. First Democratic Advantage theory suggests that, as a democracy, the United States should have higher levels of access to foreign credit. Abundant credit access would then allow the United States to act unconstrained relative to the more autocratic China. The evidence confirms some asymmetry between credit access for the U.S. compared to China, but a decisive gap has not emerged. China has lower credit ratings, but also has abnormally high domestic savings rates and the largest currency reserves in the world. Both factors mitigate any disadvantage it may have in finding credit on favorable terms. In the absence of a decisive advantage in credit access, both nations appear largely unconstrained to pursue policies that might be expensive or confrontational.

Credit access does not account for the connected nature of the United States and Chinese economies. Graham Allison proposes that the risk of conflict between emerging and status quo powers is high, but economic factors can provide a means of avoiding war between competing powers.[123] Economic data shows that the United States and China rely on each other for trillions of dollars of economic activity. A war between the two powers puts both economies at risk of catastrophic consequences. A model considering the factors of trade, currency reserves, and U.S. debt holdings show that U.S. debt represents roughly

[122] Bernanke, "The Global Savings Glut"; Mann, "The First Failed Empire of the 21st Century"; Norrlof, "Dollar Hegemony."

[123] Allison, "The Thucydides Trap."

a third of the mutual exposure between the U.S.-Chinese economies. More confrontational policies increase the likelihood of conflict and the risk of catastrophic damage to both nations' economies. Debt does not represent a trump card for either side but creates a mutual interest to avoid war.

Debt financing is a strategic asset for the United States. The last time U.S. debt was above 100% of GDP was during WWII. Credit provided the means to outproduce Nazi Germany and the Japanese Empire ensuring victory for the United States. U.S. public debt is a critical means for the country to pursue its desired ends. U.S. debt appears to be relatively benign in the near term, but it is assuredly not risk-free. It is wholly appropriate to integrate the mechanisms that finance U.S. security efforts abroad into its planning process. The United States is used to buying what it wants when it wants it. This entitlement is reinforced by perceptions of U.S. economic grandeur and its role as the post-Cold War hegemon. However, the geopolitical landscape is changing as China competes in both sectors.

B. FUTURE EFFORTS

This thesis provides answers to whether debt impacts U.S. national security efforts in the context of competition with China. However, further research is required to address other debt sectors, better quantify debts impact, and address language barriers. First, this thesis focused on the implications of the U.S. public debt, but private debts may also pose a risk to U.S. national security. The 2008 financial crisis was rooted in overleveraged banks. As the banks began to fail the government was required to step in as the banks were dubbed "too big to fail." Private sector ailments created second-order effects in the public sector. As the U.S. public debt increases, it also raises questions about the implications of private sector indebtedness on U.S. security and whether the government can finance required relief efforts in the event of a private debt crisis.

Next, the analysis of this project shows that debt does impact national security, but further research is required to better quantify the impact. The trend analysis in this project is intended to confirm or deny a connection between U.S. debt and security. A mix of quantitative and qualitative methods provides an affirmative answer to the research

question. However, deciphering the degree that debts affect security requires additional quantitative research. Further efforts can aim to quantify the relationship between debt and security, which can help to identify tipping points. In addition, this project focused on contemporary data, but historical cases may provide useful models for U.S. debt dynamics.

Lastly, the research efforts concerning Chinese strategic doctrine were limited to translated primary sources. Secondary sources helped fill in the gaps, but future efforts focused on more primary language sources might yield different conclusions. The sources for this project concluded that China views U.S. debt as good business; it is a secure mechanism for storing its wealth and USDs are the most convenient currency for international business. However, additional primary source research can help clarify Chinese satisfaction or dissatisfaction with the current dynamic. This nuance can have implications for the future of U.S.-Chinese economic connections in the near and far term.

C. POLICY IMPLICATIONS

This project's findings have several policy implications for the United States. First, the most glaring policy implication is that prevailing U.S. conceptions of the strategic impacts of U.S. debt are inadequate. Debt is a mechanism that allows the United States to fund efforts beyond its fiscal capacity. This is a clear advantage as the U.S. is not restricted in its ability to act based on what it has in its bank account. However, in that same regard debt financing needs to be used responsibly. The debt can have both negative and positive consequences. Higher debt levels have, at time, led to resulted in lower levels of defense spending but have also created a meaningful economic deterrent between the United States' closest competitor, China. Moving forward, the United States is not likely to efficiently utilize debt as a resource without integrating debt into its means-ends calculus.

In close conjunction, Congressional attempts to address the debt show poor strategic thinking. Most notably, this project shows that the BCA has been a failure from a national security perspective. It failed to reduce public debt, reduced security funding, and fostered instability around U.S. debt, which threatens the U.S. ability to access credit. The legislation used a reasonable approach of phased reductions paired with overarching hard spending limits. However, the legislative approach did not address the underlying strategic

ends that are funded by debt. Attempting to reduce spending without proportionally reducing the expected outcomes is likely to fail. Future congressional efforts must address the ends, both domestically and internationally, that debt comprises critical financing for national security.

However, this is not solely a Congressional problem. Congress is not the only arbiter of U.S. strategic policy. The Executive branch likely plays an equal if not larger role in setting national strategic priorities, through the National Security Council Staff. Therefore, the problem of addressing the debt becomes more complex spanning across multiple arms of the U.S. political system.

One area that does not require a large consensus is U.S. monetary policy. The USD is one of the strongest mechanisms of projecting U.S. economic influence abroad. USD-denominated debt instruments are attractive because U.S. currency is accepted globally and is perceived to be stable and transparent. The emergence of a competing global reserve currency would make U.S. debt less attractive and limit the ability of the United States to borrow in a crisis. Protecting USD primacy is critical to maintaining a large but rather benign national debt. Ensuring that the international community continues to see stability and security in USD-denominated assets will help maintain the benign nature of the public debt. However, the recent Congressional actions have only increased instability with threats of sequestration and government shutdowns. Utilizing these scenarios for political gain only risks undermining debt as a useful instrument for strategic gains.

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