SOVEREIGN CREDIT, CONFLICT, AND INTERNATIONAL RELATIONS

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ABSTRACT OF THE DISSERTATION

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This dissertation examines why investors are willing to finance government wartime borrowing. I challenge the conventional wisdom that investors have dovish preferences by arguing that investors use the uncertainty of conflict outcomes to create lucrative investment opportunities. War lending provides benefits as well as risks to lenders, and the risks are minimized if conflict do not escalate into larger campaigns. As a result, investors will favor states that tend not escalate their conflicts.

To test my theory, I rely on both qualitative and quantitative methods. I examine two case studies to gauge international (19th century Austria) and domestic (inter-war Europe) reaction to war. I then use event study analysis to analyze sovereign markets' reaction to the news of conflict. Finally, I analyze new data on sovereign lending to examine how sovereign credit costs affect decisions to initiate and escalate conflict. In sum, my analysis supports my theoretical assertions that sovereign investors are not always doves, but are rather pragmatists. My findings have implications on how we analyze war finance, state capacity, and military mobilization.

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Dedication

Dedicated to Sarah, Audrey, and Charlie O.

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Chapter 1

Introduction and Theory

1.1 Introduction

In 1781, the fledgling American government nearly exhausted its financial resources struggling for independence from Great Britain. With French help, the Dutch markets floated the American government a loan, infusing its war effort with much needed cash.[1] From 1784 to 1794, the Americans accessed the Dutch sovereign lending market eight more times. The Americans accomplished this despite lacking domestic resources to meet its debt changes. Indeed, the only way the American government initially met its interest payments was through additional loans (Riley, 1980).

The above example raises the question of why Dutch investors were willing to lend to a new nation facing a formidable opponent during war. The existing literature on sovereign debt and war suggests that investors usually have dovish preferences - a general aversion to armed conflict and government policies that risk armed conflict (Kirshner, 2007; Flandreau and Flores, 2012). Given these preferences, sovereign lenders should be averse to wartime lending. The negative macroeconomic effects of war harm financial investments through unstable interest rates, inflation, and general macroeconomic instability. Some scholars go as far to say that financiers can prevent states from going to war (Polanyi, 1944, Ch. 1; Flandreau and Flores, 2012). However, states do go to war, and more importantly for this study, states obtain loans to pay for their war efforts. According to data collected by Cappella

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[1] The Americans were able to secure another loan the following year without French backing.

(2013), only three separate war participants have not borrowed in the last 200 years: Italy in the Italo-Turkish War of 1910; Russia in the Estonian and Latvian Wars of Liberation 1918 - 1920 as well as in the Russo-Polish War of 1919 - 1920; and the United States in the Korean War, 1950 - 1953. This evidence presents a puzzle: why would investors facilitate lending to states embroiled in conflict if investors prefer peace?

Scholars have argued that investors will lend to states when the war outcomes are apparent (Flandreau and Flores, 2012).[2] However, betting on winners does not explain how the vast majority of states obtain credit for their war efforts. The prominent political theories of sovereign debt - reputational and institutional explanations - also fall short in providing an explanation given that neither theory focuses on the dynamics of war borrowing. In this dissertation, I offer an alternative explanation on how states acquire credit for war. I challenge the notion that investors usually have dovish preferences by arguing that investors use the uncertainty of interstate crises to create lucrative investment opportunities. Specifically, I argue that states can acquire credit for mobilization purposes when investors believe that war in unlikely. From the investors' perspective, if war is unlikely, states' mobilization efforts can prove to be profitable. Therefore, investors are more likely to maintain or even increase their bond investments in states that are likely to avoid unlimited war, even when those states enter crisis disputes.

This dissertation is interested in the intersection of political economy and security, a burgeoning research focus in International Relations. Recently, liberal theorists' arguments - such as those made by Emmanuel Kant, Adam Smith, and David Ricardo - that economic exchange can help perpetuate peace have been revitalized.[3] With new data and more sophisticated econometric techniques, scholars

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[2] Slantchev (2012) implicitly makes this agrement; his formal model assumes that war winners always repay their debt while losers do not.

[3] Of course, scholars have examined the relationship of interdependence and war before the recent revitalization. Angell (2012) argued that trade was a more efficient means to acquire wealth

have examined the relationship between trade and security (Oneal and Russet, 1999; Russet and Oneal, 2001; Barbieri, 2002).[4] Other scholars have focused more the effects of integrated capitalist markets on peace (Gartzke, 2007), sparking a debate whether the "democratic" peace or "capitalist" peace is the more valid theoretical and empirical explanation.[5] While this dissertation does not directly address this debate, it does focus on a new aspect of the economics and war research agenda: sovereign credit and conflict. In the literature, credit is shown to be crucial for security issues, including outcomes of enduring rivalries (Schultz and Weingast, 2003), positions in global leadership (Rasler and Thompson, 1983), war outcomes (Shea, 2013a), and alliance formation (Allen and DiGiuseppe, 2013). However, this literature is incomplete because it does not address why sovereign lenders are complicit in war lending, especially since we have, up until this point, assumed that investors prefer not to lend for war (Kirshner, 2007; Flandreau and Flores, 2012). This dissertation will address this puzzle.

The rest of this chapter is organized as follows. First, I review the literature on sovereign debt, examining both the characteristics of the sovereign lending market and the prominent theories in political science on sovereign credit. Next, I examine investor preferences, challenging the theoretical and empirical assumptions of the existing literature. Then, I develop an argument as to why investors lend to states in conflict under some conditions. Finally, I conclude with a preview of the empirical strategy of this dissertation.

relative to conquest and therefore, the world should witness less war in a more globalized pre-World War I era. The outbreak of World War I and the autarkic conditions of the interwar period undermined Angell's argument. However, scholars are revisiting the role of economics and the outbreak of World War I (Gartzke and Lupu, 2012; McDonald and Sweeney, 2007; McDonald, 2011) to strengthen the liberal argument.

[4] The consensus in the literature suggests that trade does reduce the probability of conflict, but that marginal reduction is small. There is also evidence that trade sometimes continues between warring states (Barbieri and Levy, 1999).

[5] Other scholars have weighed in on this debate. Please see McDonald (2009, 2010, 2011); Dafoe (2011); Anderson and Souva (2010); Hegre (2000); Mousseau (2000, 2009). In addition, see Levy and Thompson (2010, 70-77) and Levy (2003a) for a review of the economic interdependence literature.

1.2 Sovereign Credit Market

Before reviewing the sovereign credit literature, I will discuss the general structure of the sovereign credit market and how it has changed over time. Although this dissertation will focus on the modern era (1815 - present), the sovereign credit market has its origins in the medieval era. Stasavage (2011) notes that the first city-state to borrow long-term debt was Arras in 1241. The first territorial state to borrow was Castile in 1489.[6] Over time, public credit concentrated in the Italian city states of Venice and Genoa. Eventually, the capital center moved to Amsterdam, which was the leading external lender in the 18th century. However, inflationary trends and sovereign defaults in the late 18th and early 19th century eroded Amsterdam's capital stock (Riley, 1980).

After the Napoleonic wars, London emerged as the credit capital of Europe. It was at this time that a handful of financial intermediaries - firms that facilitate financial transactions and act as a mediator between buyers and sellers - dominated the credit market. The Rothschild Bank and Barings lent significant sums to Britain during the wars, and were rewarded by the British government's determined effort to repay all of its debt obligations.[7] With their advantageous market position, each bank looked for new lending opportunities. Barings, already a client of the United States government, increased its lending in America (Ziegler, 1988). The Rothschilds expanded across Europe, opening branches in Vienna, Paris, Frankfurt, and Naples, and became the major sovereign lender in Europe and Latin America in the 19th century (Ferguson, 1998).

Given the market dominance of Barings and, more notably, the Rothschilds, the sovereign market in the early 19th century operated differently then present day. Investors looked to the signals proffered by these financial intermediaries operating

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[6] See Table 2.1 on page 31 in Stasavage for a comprehensive list of borrowing during the Middle Ages.

[7] Britain's debt-to-GDP ratio exceeded 200% (Ferguson, 1998).

in the sovereign debt market. While investors still may look to intermediaries for clues on how the market will react, the effect is much smaller today than in the 19th century. In the 19th century, intermediaries effectively reduced the information asymmetry in the lending market. This was possible because the intermediaries had both the means and the motivation to collect information on borrowers.

Individual investors do not have incentives to monitor sovereigns, given the opportunities to free ride on the information acquisition of other investors. As an investor, it is more cost-effective to avoid monitoring activities and merely copy the investment decisions of those individuals who actually do monitor. However, if this logic always held true, no individual investor has incentives to incur monitoring costs. This leads to a collective action problem for investors since individual investors would benefit from information acquisition, but the monitoring costs involved make it unlikely that any one individual investor could or would undertake those costs alone.

Intermediaries with sufficient presence in the sovereign lending market can incur these monitoring costs, and can tolerate free riders, because information acquisition can help increase market share and decrease the probability of poor investments (Hauswald and Marquez, 2006). As a result, as intermediaries gain more market control, the quality of their decision-making increases. As competition increases, and more intermediaries compete for loan contracts, decision quality decreases.

Larger financial institutions like the Rothschilds often engaged in a type of monitoring called relational banking, which is the intimate investigation of customers in order to gather private information (Boot, 2000). Relational banking can reduce the costs of monitoring for the intermediaries, reduce the transaction costs of exchange, provide a source of incumbency advantage, and bring flexibility to often rigid financial agreements.

Information asymmetry in the international lending market is also conducive for

investors to rely on decisional heuristics.[8] Individual investors have limited capacity to gather information on a sovereign state. Information is costly, so investors have incentives to use low cost heuristics to evaluate an investment. Financial intermediaries can act as a heuristic, which lessens the need for investors to be concerned with regime type and reputation. Competent intermediaries can develop their own reputation. Investors look at which intermediary handles a sovereign loan as a sign of reliability of an investment. In early 19th Europe, the Rothschilds appeared to only support profitable loans, and so investors knew that a Rothschild sponsored loan was worthy of investment (Flandreau and Flores, 2009, 2012).[9]

As the 19th century progressed, several events helped erode the market dominance of the Rothschilds and Barings. First, new technology, such as the wire services and extended rail lines, lowered the cost of information acquisition, which eroded the informational advantages of these intermediaries. Second, the revolutions across Europe in 1848 caused market panics across Europe eroding a significant portion of the capital stock of these intermediaries (Ferguson, 1998). Third, governments attempted to gain leverage over the intermediaries by first enlisting

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[8] I define heuristic here as a decisional strategy, which serves to keep the information processing demands of the task within bounds (Abelson and Levi, 1985, 255). In other words, this heuristic is a cognitive short-cut that investors use to make sense of complex information. The heuristics used by sovereign investors can be considered brand or identification heuristics, akin to voters using party ID as a decisional strategy (Lau and Redlawsk, 2001). I am not classifying investors use of heuristics as judgemental heuristics, as related Kahneman and Tversky's work on assessing probabilities under uncertainty. Judgemental heuristics include representativeness, availability, and anchoring and adjustment heuristics. Representativeness heuristics refers to judgements of probability that one object or event belongs to a category based on characteristic similarities to typical members of a given category. Availability heuristics suggests that assessment of probabilities of disproportionately influenced by familiar or salient events. Anchoring and adjustment suggests that people update their beliefs more slowly than predicted in a rational Bayesian model. While some investors may use these types of heuristics, I am arguing that, in general, investors use the "brand" of a financial intermediary as a signal of the potential quality of a particular investment. Please see the following works for more on heuristics: Levy (2003b, 2002); Lau and Levy (1998); Tversky and Kahneman (1974); Kahneman et al. (1982); Jervis (1986).

[9] Presently, investors rely on credit ratings from financial intermediaries that use a grading system (AAA, BB, C, etc.). However, in a working paper, I demonstrate that the quality on these ratings is a function of the competitiveness in the credit ratings market (Shea, 2013b). The more rating agencies in the market, the less likely that the credit grades reflect the probability of sovereign default.

the aid of their own national banks, and then developing their own domestic credit markets from which to draw upon. These events did erode the monopolistic positions of these intermediaries as the 19th century proceeded, but they still held a privileged position in the market until 1914. The economic instability, inflation, and eventual widespread defaults as a consequence of World War I depleted the capital stock across Europe, and especially hurt these intermediaries, who never returned to the former glory. It was at this time where the credit dominance shifted to the United States (Ferguson, 1998, 1999a; Ziegler, 1988; Ferguson, 1999b, 2001; Flandreau and Flores, 2009).

After World War I, the credit market was characterized as openly competitive, with no one or two intermediaries dominating the market. It was during the war and immediately afterwards that the sovereign credit market saw an influx of different types of sovereign securities. While many states had both domestic and external debt at the start of the war, the immense demand for fiscal revenue prompted some war participants to issue short-term debt securities, which were largely unfunded (Ferguson, 2001). The sovereign lending system changed significantly, as governments began to sell bonds directly to the public, using propaganda to associate sovereign lending to a patriotic duty (Ferguson, 2001, 118). However, even patriotism could not overcome investor concerns, and governments found it difficult to secure long-term financing. Investors could lend to governments for short periods of time, and then redeem their securities at a public bank. However, governments would often honor these securities only by printing new money, thus inciting inflation. Therefore, states that relied on short-term debt did not enjoy the same advantages as states that can acquire long-term borrowing. Ferguson (2001) notes that one of the reasons why Britain was better able to transition out of its war economy than Germany in 1919 is because the German credit market was saturated with short-term debt securities. Conversely, the Bank of England purposely converted all short-term securities into long-term securities (Peden, 2000).

World War II required even more reliance on short-term domestic sources of credit given that the investors in the United States were wary of lending to warring states again after these same states defaulted on their last war debt obligations (Self, 2006). Eventually, the United States opened up its credit, assisting the Allies' victory against Germany, but mostly through inter-governmental loans (Ferguson, 2001).

The sovereign debt market remained competitive throughout the 20th century, with no intermediary emerging as a monopoly. The post-World War II era was also absent of major wars, though war finance remained important. This is especially true for the United States, which not only fought in several wars in the post-war era, but also implemented an ambitious rearmament strategy in the early 1980s. In addition, debt crises in the 1980s, 1990s, and 2008 demonstrate that sovereign credit is not only intricate to government finances, but also the global economy.

1.3 Sovereign Credit and War

Before examining sovereign investors' preferences for war and peace, I want to establish that sovereign credit is important for war dynamics. Wars are costly. In order to meet the demand for more revenue states have three major options: tax, print money, and borrow. In practice, states usually use a mixture of all three financing strategies during war. However, relying too much on taxation or inflation can be detrimental to a war effort. High tax rates can burden a society by diverting assets away from private consumption, and can increase the ire from important constituents. For example, during the Chaco War (1932-1935), the Bolivian government was forced to raise taxes on its domestic tin mining companies to pay for foreign armament contracts (Hughes, 2005). This emboldened opposition groups within Bolivia, and forced the president to agree to a power-sharing agreement that provided cabinet positions to political adversaries. This laid the groundwork for a

military coup in 1934 during the middle of the war (Farcau, 1996).

Printing money detrimentally affects a war effort by provoking inflation and economic instability. Inflation depreciates the relative value of a currency, thus decreasing a state's purchasing power abroad, limiting the amount of goods that can be bought for military purposes. While inflation is an effective strategy in reducing domestic sovereign debt value, it decreases a state's ability to borrow and purchase abroad. During the Napoleonic Wars, Napoleon ordered 100 million gulden of fake Austrian banknotes to be printed and circulated "to force Austria back into a metal currency" and to "compel her to reduce her army." (quoted in Ferguson 2001, 147).

Borrowing inexpensive credit can mitigate the need for the two aforementioned revenue options, and offers several advantages to the state. Cheap credit provides states the opportunity to raise revenue quickly (Obstfeld and Rogoff, 1997). This endows states with a possible mobilization advantage, allowing them to make arm purchases or execute logistical plans before an adversary can do the same. After Japan and Britain signed a defensive alliance in 1902, Japan found much support in the financial markets in London. Natty Rothschild, head of the Rothschilds London operations, argued that it was "a matter of political importance that Japan should be able to raise in [Britain] rather than elsewhere the money which she requires" (Ferguson, 1999a, 395). The Japanese floated a £5.1 million loan in the London market in 1902 (Ferguson, 1999a) and received an additional £50 million from the Rothschilds during the war (Rothschild Archive 000/401H/5). Russia would eventually acquire its own loans from the French financial markets (Ferguson, 1999a), but not until Russia was embroiled in a domestic revolution and Japan had secured a number of naval and military victories (Kennedy, 1987; McDonald, 2009). Japan's early credit acquisitions allowed it to take advantage of Russia's early disorganization.

The second potential advantage of cheap credit access is that inexpensive borrowing can have positive effects on a state's domestic economy. Borrowing can produce a tax smoothing effect that is more conducive to investment than alternative fiscal policies (Schultz and Weingast, 2003). Low costs of borrowing can also provide macroeconomic stability, as revenue projections become more predictable (Reinhart et al., 2003). The Confederacy's financing efforts during the American Civil War reveals the negative effects of a government's inability to attain credit. Ferguson (2008a, 92) notes "the finances of the Confederacy are one of the great might-have-beens of American history." The Confederacy's inability to secure a substantial line of credit, coupled with financial ineptitude by their leadership severely restricted the South's military strategy and insured their defeat. Initial efforts by Confederate agents to secure loans in Europe where unsuccessful because of Southern states' history of default and President Jefferson Davis' repudiation of debt responsibilities (Sexton, 2005). European support for the Confederacy is often overestimated because promised credits were never realized. The leading financial firms in Europe avoided any investment in Confederate bonds (Ferguson, 2008a). In September of 1863, the Confederacy was finally able to secure a loan with the Erlanger financial house of France. This loan was contingent on two conditions: a high risk premium (7 percent lending rate) and bonds guaranteed by Southern cotton. However, without the port city of New Orleans (occupied by Union forces in 1862) and the naval blockade of Southern exports to Europe, the loan lacked a credible mechanism to ensure repayment. As a result, the loan only raised $8 million which is meager in relation to the $2 billion worth of expenditures that Confederacy spent during the war (Sexton, 2005). Unrealized foreign loans would have not only closed deficit gaps for the Confederate government, but would have also acquired a slew of sympathetic European bondholders who would be financially invested in a Southern victory.

Finally, inexpensive credit lowers the burden on society. The state can spread the cost of the war over many years, adding only a marginal immediate burden on

taxpayers. There are economic benefits to this marginal tax burden, as it leaves constituents with more private assets, promoting investment, consumption, and long-term economic growth. There are also political benefits from limiting the demand for tax revenue. Rulers' domestic bargaining position increases as their economic dependence on constituents decreases (Levi, 1988). Rulers who do not have to depend on their citizens for tax revenue or other economic resources have a freer hand in enacting policy (McDonald, 2009). Constituents facing lower tax rates will be less inclined to oppose government policy, thereby isolating the government from societal pressure. This is consistent with the empirical evidence that inexpensive credit access helps states win wars (Shea, 2013a), win enduring rivalries (Schultz and Weingast, 2003), and attain positions of global leadership (Rasler and Thompson, 1983).

The above discussion highlights the importance of sovereign credit for states in war. The next section will examine why creditors would want to lend to states for war purposes.

1.4 Finance, Lending, and War

War can increase uncertainty about loan repayment, raising the risk associated with sovereign lending. Outcomes of the wars may negate any responsibility of loan repayment. For example, the Union government refused repayment of Confederacy debts (both domestic and international) after the American civil war (Sexton, 2005). Even without defeat, war can make repayment difficult. After World War I, Finland was the only state that did not default on its external debt obligations to the United States (Reinhart and Rogoff, 2008). The intense demand of expenditures for mobilization efforts and the subsequent macroeconomic instability such as inflation, currency depreciation, and market volatility can either hinder or devalue government payments. As a result the financial community is cautious of the risk of war (Kirshner, 2007).

Information asymmetry can also deter sovereign lending. Information asymmetry in the lending market is a result of investors' inability to accurately verify a state's ability and willingness to repay a loan. Investors can attempt to determine a state's ability to repay a loan through observing a number of economic indicators: economic capacity indicators (i.e. GDP), fiscal indicators (i.e. deficits/surpluses, debt levels, and tax capacity), and economic health indicators (i.e. inflation rates, currency volatility, and short term market interest rates). These data are sometimes accessible, but not always reliable. States can provide meaningless information, or hide damaging information to misrepresent their true credit type from investors and other states. Economic indicators from 18th century France and Great Britain suggest that France was more credit worthy, although in reality France was much more likely to default (Riley, 1980).[10] These discrepancies in economic data have not disappeared with time. In order to comply with European Union requisites on deficit levels, Greece delegated a significant portion of its military budget as confidential from 2002-2009 (Forelle, 2010). As a result, government expenditures were hidden from official fiscal reports, distorting Greece's true fiscal health to both the EU and investors.

Even if we assume that a sovereign borrower's economic data are reliable, this does not solve the information asymmetry problem. The argument can be made that states never lose the ability to repay, given that there is always something (i.e. land, authority, etc.) that can be auctioned off. The question of whether this strategy is politically feasible questions states' political willingness to pay, not its economic ability to pay. After World War I, there were several proposals discussed in the U.S. Congress and State Department regarding debt forgiveness for Britain in exchange for territory, including Nova Scotia, Newfoundland, or islands in the Caribbean. The State Department also explored the possibility of annexing British Guiana to

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[10]Britain followed much more conservative and transparent accounting practices than France at this time.

provide a home for Jewish refugees (Self, 2006). The possibility of exchanging land for debt forgiveness never gained traction in the British Parliament, and Britain would eventually default on its debt obligations to the U.S. This example highlights that debt repayment is more about a state's willingness to repay and less about its ability to repay.

A state's ability to repay a loan may be common knowledge, but it is more difficult to determine whether a state is willing to repay its loans. Tomz (2007) attributes a state's willingness to pay back a loan to a number of factors. Leaders in a position of strength (in terms of job security or bargaining position within a government) may be more willing to forgo the short-term benefits of default. Similarly, the population's willingness to endure austere conditions such as higher taxes and/or lower social welfare spending are included in this political calculation.

Time horizons may also be linked to political contextual factors. A leader's time horizon may be affected by the stability of his office, the time until the next election, or cultural, societal, institutional, and individual factors. Individual factors affecting time horizons make explanation and prediction difficult, evident by the range of anomalous behavior in lab experiments (Streich and Levy, 2007).

The preceding discussion illustrates the complexities of the sovereign lending markets, which are only complicated by war. Despite the problems in credit markets, sovereign lending still occurs and states are able to attain credit. There are several explanations in political science that attempt to address this puzzle, although two dominate the literature: reputational explanations and the "democratic advantage" explanations.

1.4.1 Reputational Theory

Many scholars have used borrowers' reputational concerns as the rationale for loan repayment. The possibility of loan default will prompt investors to restrict future credit access to the defaulting state, or at least increase the costs of borrowing.[11] Therefore, sovereign borrowers will repay loans in order to avoid higher borrowing costs. This is consistent with the assertion that a government's reputation is like a valuable asset (Keohane, 1984); the more reputable a sovereign borrower, the better the credit access. States are concerned with their reputation because poor credit status will lead to higher borrowing costs in the future. Investors will lend money to states with steadfast reputations since the transactions with these states tend to be profitable and low risk.

If reputation matters, what exactly determines a state's reputations? Similarly, how can investors determine states' willingness to repay loans? Tomz (2007) identifies three major factors that contribute to a state's credit reputation: the decision to default; the timing of the default; and changes in regimes. A state's decision to default on a loan sends a signal to investors about their willingness to repay that loan and future loans. The timing of default is also important in Tomz's model because it can separate different reputational types. There are three sovereign types in this model: stalwarts, who repay their loans in all situations; fair-weather sovereigns, who repay during prosperous economic conditions and default during poor economic conditions; and lemons, who always default.

These reputations can become entrenched, but can also be reset with regime changes. For example, up until 1917 Russia was a faithful stalwart, repaying its debt obligations through all types of economic conditions. However, when the new

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[11] This paper will focus on the modern era, and recognizes that there was a time in Europe where monarchs could extract forced loans. However, Stasavage (2011) argues that these forced loans should be conceptually treated the same as voluntary loans. He finds that the interest rates on the secondary markets were similar to the original forced loan conditions. The analysis in Chapter 3 contradicts Stasavage's argument, suggesting more research is needed to address the issue of forced loans.

communist regime defaulted on its debt obligations shortly after the October revolution, investors did not view this as an anomaly, but as a clear signal of the new regime's type (Tomz 2007).

There are several problematic assumptions in the rationalistic reputational theory. Investors are assumed to interpret defaults in similar ways, although individuals do not necessarily learn in the same way, given individual differences in analytical assumptions and worldviews (Levy, 1994). In addition, sovereign borrowers do not necessarily default on all creditors at the same time, thus affecting different investors in different ways. Firsthand experiences may have different learning dynamics than detached observation (Jervis, 1976). Individuals with firsthand experience may be more perceptive and sensitive to changes in actors' behavior, suggesting that investors who have had their loans defaulted on will be less reconciliatory towards a sovereign defaulter.

Reputation explanations also assume away the collective action problems facing investors, thus overstating investors' ability to impose effective punishments. In reality, creditors face collective action problems when imposing credit boycotts or even when charging higher credit premiums. The lenders have incentives to defect from credit boycotts to gain business with the sovereign (Schultz and Weingast, 2003). Sovereign borrowers can play competing creditors off each other to get favorable loan conditions. For example, Russia repeatedly made overtures to the Rothschild Bank in the 19th century to leverage new loans out of its normal lenders, Barings and Hope & Company (Ferguson, 1998, 1999a). Additionally, credit boycotts not only inflict punishment on borrowers, but force creditors to sacrifice business. Lending is a profitable business, even if sovereign borrowers are at risk of default. Abstaining from the market may be a dubious threat, since investors are forgoing possible profits.[12]

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[12]Drelichman and Voth (2011) demonstrate how lenders overcame collective problems by designing internal punishment mechanisms that were more detrimental than forgoing potential profits from defecting. However, as lenders become less concentrated in geographic location, this type of

Some scholars also argue that reputational concerns cannot be a sufficient factor in determining debt repayment because of time horizons (Schultz and Weingast, 2003; North and Weingast, 1989). Varying time horizons between individuals imply that leaders regard reputation concerns differently. North and Weingast (1989) note that war can put a regime at risk of surviving. When survival is at risk, the future can be discounted severely, making future loan opportunities inconsequential. Therefore, rulers at war will be more likely to pursue the short-term benefits of default, while forgoing future credit. These contradictions to the reputation explanations have motivated some scholars to examine the role of domestic institutions in international lending.

1.4.2 "Democratic Advantage"

The second theoretical explanation of international lending - the "democratic advantage" explanation - asserts that states with strong, democratic institutions can credibly demonstrate their credit worthiness. Democratic institutions provide a low cost mechanism to punish leaders who fail to repay their loans. While leaders may have short-term incentives to default, the macro-economic effects of that decision will prompt voters to remove the leaders at the next election. As a result, states with democratic institutions have more incentive to repay their loans explaining why "these states typically have superior access to credit than their nondemocratic rivals" (Schultz and Weingast 2003, 36). In sum, decision-makers are constrained by the democratic institutions and processes of the government, decreasing the probability that leaders will pursue the short-term benefits of loan default.[13]

Although electoral accountability underpins a major facet of the democratic advantage argument, it is not necessarily clear why the electorate punishes leaders

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collective action becomes more difficult.

[13]Other works have demonstrated that independent central banks, not democratic institutions, lead to better lending conditions (Poast, 2013).

for default. In many cases, external bondholders - who have no access to the electoral punishment mechanism - hold sovereign debt. This lending dynamic raises the question of why an electorate would punish a leader for reneging on a commitment to foreigners. Alternatively, there is also the possibility that leaders will renege on these commitments in response to electoral pressures. For example, I discuss in more detail below Britain's decision to default on its loan obligations to the United States in 1933, a decision popularly supported by the British electorate.

Schultz and Weingast (2003) argue that even defaulting on external debt can cause dire macroeconomic consequences that have domestic political implications. External default may shake the confidence of the domestic credit market, causing increases in interest rates in private credit transactions. However, these consequences are not uniform across the constituency, which highlights a second point. Even if the government defaults on its domestic debt, this action does not affect all segments of society equally. While some within society may be hurt by default, others gain. If leaders default, they can allocate fiscal resources once obligated to debt repayment to other places, such as social welfare spending. The recipients of this spending gain at the detriment of the debt holders.

Most of the democratic advantage literature ignores the trade-off dynamics of these allocation fiscal decisions. Fiscal decisions produce winners and losers. Decisions to repay debt reward constituents that own either government debt or some other type of asset that is sensitive to domestic interest rates. At the same time, in order to repay debt, the government must either find new sources of revenue (usually in the form of taxes) or divert government expenditures (usually away from social spending). This revenue generation process may be detrimental to some within a leader's constituency. It is also likely that many within a society will be hurt by both default or repayment, although the total effect will vary across society. Therefore, the reaction to default from any electorate will depend on their total utility as a result of the default. For example, after World War I, German leaders decided

to default on their loan obligations in order to limit new taxes and maintain social welfare spending for the unemployed. The leaders thought that this strategy was optimal in quelling the revolutionary sentiment that was present in Germany in the 1920s (Ferguson, 1999b). The heterogeneous effects of default is consistent with Stasavage (2011), who argues that institutions' constraining effects are only effective with the presence of a well-developed and influential financial elite. These elites have incentives for the state to avoid default, given their own financial interests.

Financial elites have been present in Britain for centuries, which is often highlighted as an ideal type of the "democratic advantage." British elite, given their ties to the financial market, have incentives to pressure British leaders to honor their debt obligations.[14] British elites were able to hold influence over the British government given the limited suffrage (i.e. land ownership requirements) in Britain for most of its history.[15] As a result, a significant and influential segment of society would be more harmed by default than by the draconian consequences of repayment. This explains why the British were able to stay committed to repayment of domestic debt even after acquiring large deficits after the Napoleonic Wars (200 per cent debt-to-GDP ratio) and World War I (175 per cent debt-to-GDP ratio).

However, the case of World War I, highlights the limits of the democratic advantage argument. While Britain remained committed to repay its domestic debt obligations immediately after the war, it did default on its debt to the United States in 1933. After the financial crisis at the start of the Great Depression, the European states began to default on their debt obligations to Britain. This left Britain short on currency reserves while it still had foreign debt obligations to the U.S. government. Britain attempted to negotiate reduced payments interest to $20 million

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[14] Throughout most of British history, sovereign debt obligations have been mostly domestic, given their well developed finance market. Therefore, British elites have even more incentive to pressure their leaders for repayment, given that these elites owned the sovereign debt.

[15] Property suffrage restrictions were lifted for British males in 1918. Women were given the same suffrage rights as men in 1928.

compared to their pre-crisis payments of \$160 million. Americans countered by demanding \$60 million (Peden, 2000). Britain's main negotiator Frederick Leith-Ross admitted that Britain's "objections were fundamentally political" and that \$60 million was "within our capacity to pay" (Leith-Ross, 1968, 174). Britain's decision to default on its external debt was a motivated by, not constrained by British democratic politics.[16] Instead of punishing British leaders for defaulting, the Conservative Party maintained control of Parliament in the 1935 elections. In addition, Neville Chamberlain, who orchestrated the British default policy as the Chancellor of the Exchequer, became Prime Minister in 1937.

Democratic governments may also have incentives to default on their domestic debt obligations. At the end of World War I, Germany was saddled with large amount of domestic debt. This fiscal hardship was compounded by lost sovereign territory to France, Belgium, Denmark, Poland, and Czechoslovakia and forfeited colonies as a result of the Versailles treaty. Germany also faced the prospect of war reparations to the Allies. To discourage reparations, Germany followed an economic policy that *incited* economic instability. In addition, the government - in an effort to increase budget deficits - imposed a new fiscal system where taxpayers could defer tax payments (Ferguson, 1999b, 412-432). When reparations were levied, and Germany was forced to borrow domestically to finance their obligations to the Allies, the government encouraged inflation to devalue its domestic debt.

Germany did not avoid reparations, and its early post-war economic policy proved difficult to reverse. Although it had less domestic debt responsibility than Britain after the war, Germany had more difficulty repaying its domestic debt. In order to repay its debt obligations after World War I, Germany would have been forced to pursue a similar deflationary policy as Britain. This would have increased

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[16] As a result of Britain's failure to fulfill its debt obligations, it was included in the provisions of the U.S. Johnson Act of 1934, which prohibited any inter-governmental lending to states in default (Peden, 2000). This had implications for Britain's rearmament in the late 1930s.

the level of debt in Germany, and possibly increased unemployment. German leaders framed the subsequent depreciation policy - which was a de facto default policy - in terms of "national interest." (Ferguson 1999a, 408). German leadership was not electorally punished for these economic policies or for its temporary default in 1924. It was not until 1932, when the Nazi Party rose to power, promising to break German foreign financial obligations, did any major political transition occur. Ferguson (1999b, 432) suggests that Germany may been able to maintain its debt obligations if it had a more authoritarian government. This is a provocative argument given its obviously contradiction to the "democratic advantage" literature, but is consistent with other empirical evidence (Stasavage, 2011; Saiegh, 2005; Biglaiser et al., 2008; Archer et al., 2007).

While these illustrative examples do not definitely discredit the "democratic advantage," there has also been mixed empirical evidence in support of this theory. Archer et al. (2007) and Biglaiser et al. (2008), examining a sample from 1987 to 2003, find that investors only considered regime type in their investment calculus for the poorest developing countries, and were more concerned with policy stability for wealthy states. McGillivray and Smith (2008) find that length of tenure of the executive's party had a positive effect on credit worthiness for states in a 1824 to 2003 sample, again suggesting that credit markets favor stable political conditions. This is consistent with Block and Vaaler (2004), who find that credit agencies tended to downgrade bond ratings in developing countries that were about to hold an election from 1987 to 1999. In addition, Saiegh (2005) finds that developing democracies were more likely to restructure their debt agreements in comparison to autocracies (from 1974 to 1997), contradicting the argument that democracies are more able to make credible commitments in debt repayment.

1.4.3 Lending for War?

The leading theories of sovereign debt have several theoretical and empirical limitations as discussed above. In addition, these theories rarely address sovereign lending for war purposes. Given that war can increase uncertainty and information asymmetry, and given the importance of sovereign credit for war efforts, this oversight is surprising.

While most of the sovereign credit literature does not focus on war lending specifically, a small segment of literature has examined the relationship between finance and war. Kirshner (2007) argues that the finance community opposes war to minimize risk and macroeconomic instability. While finance does not always oppose war, it is more cautious and reluctant to risk war than other segments of society. Kirshner (2007, 10) goes as far as to say that the aversion to war is "lawlike." Finance's preference for peace is found in cases where a state was expected to win (United Kingdom in the Falkland War) and in cases where the war was extremely popular (United States in Spanish-American War).

Although it is compelling, there are several limitations to Kirshner's argument. First, most wars are funded through some type of debt, which is facilitated by the finance community. Cappella (2013) finds that 93% of all wars were financed through some sort of debt. This in itself appears contradictory to Kirshner's theory, given the supposed dovish tendencies of finance. This contradiction is a result of Kirshner's categorization of finance, as he consolidates all of the finance community into a single category. This categorization does not account for the fact that some within the finance community purchase government debt, which gives them very different preferences about government policy than those in the community who do not purchase sovereign debt. War may threaten the investments of those who do not invest in sovereign debt, but war can also provide investment opportunities for those who do invest in sovereign debt. Similarly, if a financier already owns government

debt, and dovish policies increases the probability that the government will lose a war (and thus decrease the probability that its debt is repaid), then sovereign debt holders should support more deterrent policies rather than appeasing policies.

Kirshner also does not fully address the internationalist preferences of finance. These preferences are a result of the demand for new foreign markets and general "international economic exposure" (Lobell, 2008, 445). Some internationalist policies may increase the likelihood of conflict (given increased interstate interaction), but this risk may be acceptable to finance if the possibility of new markets exist. For example, internationalist factions support strong military forces and forward bases of operation to protect trade routes, market access, resources, foreign direct investments, and lines of communication (Lobell, 2008).

In addition to theoretical inconsistencies, Kirshner's empirical evidence is uneven. First, Kirshner's cases are limited to pre-war settings, and therefore we do not observe the preferences of finance in settings where war was possible, but did not occur. Kirshner argues that this case selection was designed to ensure that the risk for war was genuine, but it introduces bias if the risk for unlimited war was high in all his cases. In sum, it may be that his case selection provides most-likely scenarios for his theory to hold.

In addition, many of the statements in support of Kirshner's theory come from central bank or treasury officials. It is unclear whether these statements are reflective of the preferences of the financial community, or whether these statements are a function of bureaucratic politics. An official's position on an issue can be a result of a myriad of bureaucratic interests and inter-government bargaining (Allison and Zelokow, 1999). There are several examples of officials leaving these bureaucracies, only to change their preferences for war and finance. Paul Reyaud, a former finance minister in France, supported the devaluation of the franc in 1934 in order to effectively mobilize against the growing German threat (Kirshner, 2007, 118). According to

Kirshner, Reyaud's preference contradicted the sentiment of the financial community at the time. Kirshner also notes that many of President Truman's foreign policy advisors had backgrounds in Wall Street and investment banking, but advocated deterrent, rather than appeasing, foreign policy strategies at the onset of the Cold War (123).

While Kirshner does not directly examine the role and preferences of sovereign investors, a few other scholars have. Polanyi (1944) focuses on *haute finance* - the community of international banking. Like Kirshner, Polanyi does not restrict his unit of analysis to banks that participated in governments' "adventures in war and peace," but he does focus his analysis on sovereign lenders (11). Polanyi's argument extends beyond Kirshner's claims, connecting *haute finance* to the century of peace from 1815 to 1914. While Kirshner is generally agnostic about finance's ability to prevent war, Polanyi argues that finance's peace interest generally prevented war on the European continent during this time.

Flandreau and Flores (2012) update Polanyi's argument, asserting that sovereign lenders, specifically financial intermediaries, abhor war. War creates risk for loan repayment, which in turn creates risk for sovereign lenders. As a result, financial intermediaries attempt to preserve peace through their financial leverage. While Polanyi (1944) and Flandreau and Flores (2012) focus more on sovereign investors than Kirshner, both face theoretical limitations. First, these authors specify the preferences for finance over the outcomes of war and peace, and do not extend their analysis to investors' preferences over government strategies. This ignores the uncertainty and strategic interaction that underlies international relations. Peaceful strategies do not always lead to peace, just as militaristic policies do not always lead to war. Therefore, specifying preferences over outcomes limits how sovereign lenders view government policy.

The authors also ignore that sovereign lenders make profit from war lending. Polanyi (1944, 10) notes that the Rothschilds "were anything but pacifists" since

they established their fortunes during the Napoleonic Wars. However, Polanyi goes on to argue that the Rothschilds preferred limited or localized wars. This assertion does not acknowledge that the processes that lead to localized wars can also escalate to general wars in certain situations.[17] Polanyi also ignores the variance in Rothschild lending, as the bank did not always lend to states in limited or localized wars, as it was also involved in the finances of Britain and France during the Crimean War (Ferguson, 1998).

There are also theoretical problems with Flandreau and Flores's (2012) argument, as their theory changes slightly throughout their work. The authors begin to argue that "[w]ars were hazards" and "war was seen by prestigious banks as a direct threat to their charters" (223). However, in their analysis, Flandreau and Flores observe that states do acquire credit for war. The authors qualify their argument by stating that financial intermediaries only support winners in war. Intermediaries favoring winners does not explain the "Hundred Years Peace" that the authors accredit to dovish lenders. If lenders favored obvious winners, we still do not know why great powers scarcely fought from 1816 to 1914. Moreover, as I will argue in more detail below, it is not clear why winning a war mitigates the risks of sovereign default.

Flandreau and Flores's (2012) evidence for their theory is also less than convincing. The case study of the 1830 Belgium crisis is over-determined, as it largely ignores the influence of great powers. The authors argue that Belgium did not escalate its conflict because of lending constraints imposed by the Rothschilds. However, by the time the Rothschilds exerted any pressure on Belgium, France had already

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[17] I assume that leaders often make decisions about initiating conflict based on assessments on how other states will react. Leaders may suffer from misperceptions (Jervis, 1976) or overconfidence (Blainey, 1988), but often leaders can anticipate how history unfolds. Levy (2011) notes that leaders during the lead-up to World War I had similar assessments on how the war would escalate once it began, although this may not be true for all crises. In Chapter 2, the case analysis pays particular attention to how decision makers and sovereign investors anticipated the involvement of third parties into conflict. See Vasquez et al. (2011) for a counter-argument of why initiation and escalation processes should be considered conceptually different.

pulled its support from Belgium, thus limiting the probability for war. Ignoring great power dynamics and the importance of states' strategic behavior is generally true of Polanyi (1944) and Flandreau and Flores's (2012) analysis of the "Hundred Years Peace."[18]

In addition, Flandreau and Flores (2012) severely underestimate the prevalence of loans for war because the authors only account for loans during war. Their measurement excludes loans that were designed for mobilization purposes in the years before wars began. The authors also exclude loans funded in Paris, Amsterdam, or any non-London market that could bias the results. In addition, any domestic lending is omitted from their analysis, which effectively omits British lending from their sample. Between 1850 and 1885, Britain was involved in conflicts in Afghanistan, China, Abyssinia, Mexico, Japan, Persia, Egypt, Soudoan, Ashantee, Zululand, Transvall, Canada (New River), Burham, New Zealand, Kaffir, and India, and had disputes with both France and the United States that could have escalated to war (Buxton, 1966). There were only two years during this time that Britain did not need additional credit to finance their war expenditures.

Despite finance's supposed aversion to war, we still observe states funding their war efforts through credit. We regularly observe states obtaining sovereign loans as they prepare for war or even during wars. Sometimes the costs of borrowing for war increases because of the added risk, but other times, the costs of borrowing are comparable to peacetime lending rates. This suggests that sovereign lenders do not always have dovish preferences.

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[18] More detail on the Belgium case is given in the next chapter.

1.5 My Argument

In the literature discussed above, sovereign lenders are assumed to prefer the outcome of peace to war.[19] This assumption does not account for the uncertainty of outcomes in international relations. Peaceful strategies do not necessarily lead to peaceful outcomes, just as militaristic strategies do not always lead to war. Given this, two extensions are required to the current literature. First, the literature should acknowledge that war and peace are not the only possible outcomes. In this dissertation, I account for four outcomes: mobilized war, mobilized peace, demobilized war, demobilized peace. I argue that investors prefer mobilized peace to the other outcomes because it provides lending opportunities without the risks of war. Second, I argue that investors' preferences should be specified over government policies and strategies, with a specific focus on both the risks and benefits of lending for military purposes. While investors prefer mobilized peace, they have to make assessments regarding whether government's mobilization policies will lead to their preferred outcome.[20]

Investors have to balance the risks of war with new lending opportunities. Armament policies provide lenders opportunities to extend their profits, but can also threaten the value of existing or new investments. Appeasement policies may also threaten the value of existing investments, if appeasement increases the likelihood a state is targeted in war. Similarly, appeasement may contribute to the dominance of a state that prefers autarkic policies. For example, Germany's territorial expansion in the 1930s decreased the financial opportunities for American and British

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[19] I define preferences as the way actors rank-order or value possible outcomes of a strategic interaction (Frieden, 1999).

[20] To clarify, my assumptions regarding investor preferences are consistent with standard conceptualization of preferences over outcomes (Frieden, 1999). I treat government strategies (or policies) as outcomes that then affect the likelihood for a second order outcome (i.e. mobilized peace, mobilized war, etc.). The investors preferences are over the return of their investments, but "they do not have independent preferences over the means to achieve these results" (Frieden, 1999, 45).

financiers since Germany implemented strict capital controls over their newly acquired territories (Peden, 2000; Weitz, 1997). Therefore, sovereign investors need to calculate how government strategies affect the probability of war, and how war will ultimately affect sovereign investment value.

I argue that sovereign investors' preferences for a particular government strategy is dependent on how likely that strategy affects the probability of repayment. The probability of repayment is a function of whether the conflict escalates to a larger war. If conflict escalates, the government's demand for revenue increases, raising the probability that the government will suspend payments and default on its existing debt. In sum, investors are not betting on the outcomes of war, but rather betting on whether conflicts and interstate crises will escalate to war. At a 1903 Christmas party, Leopold Rothschilds (one of the partners in the London Rothschild Bank) bet a walking stick to the Duke of Devonshire that Russia and Japan would avoid war for five years (Corti, 1928a, 427-428; Ferguson, 1999a, 396). The Rothschilds, of course, made more expensive bets in the credit market by lending to states, including Japan in 1902, that were mobilizing for war.[21]

Examining government strategy, we know that mobilization and armaments are costly, and thus governments need additional revenue to finance military expenditures. The decision to rearm can stem from a multitude of reasons. Why states rearm should affect sovereign investors' preference for the policy given that it will affect how likely the policy leads to war. Armaments may be a political and economic tool to boost domestic production, and thus mitigate societal discontent. The decision to rearm may also be in response to other states rearmament policies (Glaser, 2000). How these policies affect the probability of escalation depends on how they are interpreted by adversarial states (Jervis, 1976, Ch. 3). Misperceptions are common in these situations, where defensive rearmament can be misinterpreted

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[21] See Chapter 2 for more examples of the Rothschilds betting on states not to go to war during the 19th century.

as part of an offensive strategy. Offensive and defensive capabilities are not always distinguishable (Jervis, 1978) and the concepts of offensive/defensive balance is often ambiguous (Levy, 1984; Glaser and Kaufman, 1998). However, when they are, sovereign investors should support defensive measures since they are less likely to lead to war, but still require additional government revenue. For example, sovereign lenders were happy to lend to the French government in 1841, when the government revealed plans to fortify Paris against invasion (Ferguson, 1998).

Full armament just short of war may be the most preferred outcome for lenders since it creates lending opportunities without creating macroeconomic instability. However, armament as a strategy can increase the likelihood of war. War can create risks for finance's investment portfolio given macroeconomic instability. War is not usually profitable for sovereign lenders as the macroeconomic instability within a state can devalue investors' portfolios. In addition, the added demand for revenue during war may force states to stop its interest payments, increasing the likelihood of default. War can also affect leaders' time horizons, decreasing the valuation for future credit access. Given this, leaders may pursue the short-term benefits of default to forgo future lending.

Therefore, sovereign lenders need to balance the potential added profit for lending to states and the potential risk of a state entering war. Following this assertion, I can test the following hypothesis (H1): *Sovereign investors will be more likely to finance rearmament policies if the risk of war is low.*

Finance and sovereign investor may abhor many of the characteristics of war, but not all wars are equal. Limited war serves a purpose, as it may prevent larger conflicts in the future and secure limited interests in the present. Therefore, under certain condition, lenders may support limited warfare. Following Weisiger (2013), I make the distinction between limited and unlimited war.[22] Limited wars are much

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[22] Weisiger (2013) shows that unlimited wars are usually associated with some sort of commitment problem between states. Wars that begin over informational asymmetries or military capacity miscalculations tend to be much more limited given that leaders can update their priors with the

more frequent and are characterized by a short duration of fighting or low loss of life. Unlimited wars are longer in duration or disproportionately more intensive.[23] Sovereign investors prefer the former, as these wars will have a minimal effect on states' economies and willingness to repay its debt obligations. In addition, limited warfare increases additional lending opportunities. While unlimited war also creates lending opportunities, the hardships created by this type of war may decrease the probability of repayment. H2: *Sovereign investors will be more likely to finance limited wars and interventionist policies if the risk for escalation to an unlimited war is low.*

These two hypotheses are the core of my empirical expectations. In the following empirical chapters, I specify how I operationalize risk - a key component of both hypotheses - both qualitatively and quantitatively. I then test these hypotheses using a mixed method approach.

1.5.1 Endogeneity

Thus far, I have argued that investors are willing to lend to governments for mobilization purposes only if the risks for conflict escalation are low. The above discussion outlines some broad conditions under which we can confidently challenge the assertion that sovereign investors naturally prefer peaceful strategies or even peaceful outcomes. Armament and interventionist strategies produce lending opportunities and may be more effective in preventing unlimited war than appeasement strategies in certain cases. Even if sovereign lenders always preferred demobilized strategies, it is unclear how much influence they have over government decisions to go to war.

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new information acquired from fighting.

[23] I define a state as participating in a unlimited war if the war is longer than a year or if the state participant experienced 10,000 battle deaths or more. Using this definition, out of the 338 war participants in the Correlated of War Interstate data set (version 4.0, Sarkees and Wayman (2010)) 137 fought in an unlimited war. This definition allows wars to be asymmetrical, where some participants experience an unlimited war, while other participants do not. For example, the Six Day war would be categorized as a limited war for all participants except Egypt, who lost over 10,000 soldiers (Sarkees and Wayman, 2010).

Polanyi (1944) and Flandreau and Flores (2012) attribute the "Hundred Year Peace" from 1816 to 1914 to the constraining effect of finance. This possible endogenous relationship may threaten the potential inferences I make from my analysis. For example, sovereigns may refrain from unlimited wars because they realize that lenders will not provide funding. As a result, we may not observe investors preferences about government policies given that mobilization policies (and the subsequent conflicts) become non-events.

Governments are reliant on sovereign lenders for sources of credit. If creditors do not favor government policies, then it is logical that investors would withhold credit. However, investors face pressures to lend anyways. As discussed above, if lenders already own government debt, then investors have incentives to ensure that the government is well-positioned to repay those obligations. Withholding credit during war would increase the likelihood that a state defaults. Even if investors did not own government securities, withholding credit increases the possibility that the government would pursue a sub-optimal financing strategy such as inflation, higher taxes, or even pursuing loans from competitors. This would increase macroeconomic instability in the economy, threatening financial assets' value. Lenders would want to discourage behavior that could likely devalue their own investments. Therefore, investors may be better off lending to states during war rather than forcing the government to rely on other financing strategies.

In addition, lenders face collective action problems when lending to states. Governments can offer more enticing lending conditions to temp lenders to defect from a credit boycott. This held true even in the 19th century, when the sovereign lending market was dominated by a handful of international firms. These firms had incentives to loan to states preparing for war, else risk losing business to competitors. For example, in two separate wars - the War of 1812 and the Crimean War - Barings Bank found itself financing both sides of the conflict. Although American

and Russian debt was restricted from trade in London markets during these countries' respective wars with Britain, Barings made interest payments on behalf of the sovereigns. The Barings were motivated to not only maintain the creditworthiness of these states, but also ensure that future lending business would be handled by Barings. (Riley, 1980; Ziegler, 1988).[24] Governments during this time would organize their loans through a consortium of banks so that no one lender could dictate lending conditions (Ferguson, 1998).

While sovereign credit is important for mobilization and war efforts, governments do have alternative financing strategies including higher taxes or inflation (whether through printing money or currency debasement). Alternatively, states can rely on domestic credit, as we will see in Chapter 3. Therefore, I argue that sovereign investors' influence in crisis and war decision-making is marginal. H3: *Sovereign investors do not constrain decisions to go to war.*

1.6 Summary

This chapter began with the question of why Dutch investors were willing to lend to the American government during its war with Great Britain. The subsequent empirical chapters in this dissertation will demonstrate that sovereign lenders are willing to lend to states if the risks for conflict escalation are low. In sum, Dutch investors calculated that the benefits of lending to the United States outweighed the risks from the American Revolution expanding or the United States finding itself in future unlimited conflicts.[25]

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[24] This same logic holds for firms who trade with firms in adversarial states. Levy and Barbieri (2004) find that firms have incentives to continue to trade with enemies to maintain trade relationships so they will not be lost to competitors.

[25] While the Dutch government had political incentives to finance the war effort against Britain, the loans to the United States were not intergovernmental, but were rather floated on public markets (Riley, 1980). This does not mean that sympathy for Americans or disdain for the British did not matter. Political sentiments of the finance community can help facilitate transactions, while inhibiting others. For example, the Rothschilds were wary of floating a Russian loan in Paris during the 1830 Belgium Crisis, because Parisan public opinion was decidedly pro-Poland, which

The preceding discussion challenges the conventional wisdom that finance, specifically sovereign lenders, favor peace and can pressure for peace. I argue that sovereign investors may favor more militaristic policies under certain conditions. If lenders see profit opportunities that outweigh the risks of war, then most lenders will lend to states for mobilization purposes.

I also argue that sovereign investors have limited influence over states regarding decisions to go to war. Because of competition, governments can play investors off of one another. If one investor wants to set conditions on a loan, the government can seek other investors that will not impose constraints. As we will see in the next chapter, even monopolistic intermediaries like the Rothschild Bank of the 19th century had limited influence over war decisions.

There are several theoretical implications for the above arguments. First, my argument shows the need to divide the finance category between those in finance who lend to sovereigns and those in finance who do not. This provides an explanation as to why some in finance usually oppose conflict, while others do not. Next, my argument emphasizes the importance of specifying investor preferences over government strategies in addition to potential outcomes given the strategic nature of international relations. While there has been a welcome increase of studies focused on the intersection of IPE and security issues, too often scholars at this intersection ignore the strategic implications of decision-making in the security environment.

1.7 Empirical Strategy and Next Chapters

To test the argument laid out above, I employ a mixed-method approach. The purpose of this design is to maximize inferential leverage, while limiting the potential inferential problems associated with each method. Brady et al. (2006) assert that the dataset observations (DSOs) of quantitative analysis combined with causal-process

was being occupied by Russia when it made its loan request (Ferguson, 1998).

observations (CPOs) in qualitative process allows analysis to go "beyond a simple model of 'cause and effect' and recognizes that a causal process typically involves complex mechanisms, mediators, and markets that can provide alternative ways to test theories" (360).[26]

The combination of DSOs and CPOs is particularly effective when qualitative evidence helps provide the theoretical justification for statistical model specification (Collier et al., 2010). Given this, the empirical analysis in this dissertation begins with a qualitative approach. In Chapter 2, I examine Austria's lending relationship with the Rothschild Bank to demonstrate that investors, under certain conditions, prefer interventionist and rearmament foreign policies. There are several advantages to beginning the analysis with this qualitative approach. First, the risk of war is difficult to measure quantitatively, so the process-tracing approach in Chapter 2 is less prone to measurement error given that it assesses risk across several qualitative dimensions. While process-tracing methods are not immune to measurement error, quantitative studies are more exposed to heterogeneity and conceptualization problems (George and Bennett, 2005).

Second, while Chapter 2 is designed to test the hypotheses presented above, it also provides a plausibility probe to my argument. Establishing the plausibility of my theory is important given that the argument is untested and challenges several conventional wisdom arguments in the sovereign credit and conflict literature. As George and Bennett (2005, 75) note, plausibility designs are "not intended to lower the standards of evidence and inference," but can help determine the direction of future research designs.

The final advantage of the beginning the empirical analysis with a qualitative approach is comparability to previous scholarship on sovereign credit and war. Both Kirshner (2007) and Flandreau and Flores (2012) take a qualitative approach to

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[26] For more on DSOs, CPOs, and the integration of the two approaches, see Brady and Collier (2010) (and its contributors) and Collier et al. (2010). For a critique of this mixed approach, see Beck (2006, 2010).

their research, and the latter authors specifically examine the Rothshilds' preferences for war and peace during the 19th century. Given that my theory directly challenges some of the tenets of these authors' previous arguments, it is important to empirically approach my argument in a similar manner. In addition, my analysis in Chapter 2 provides an opportunity to replicate some of the analysis from Flandreau and Flores (2012). Replicability is an important characteristic of a research design because it helps confirm that a research process is reliable (King et al., 1994; Gerring, 2001). Given the complexity of evidence in qualitative studies, replication is not always possible (King, 1995) but should be considered when formulating a research design. While replication is important in qualitative research, quantitative analysis has a more institutionalized norms about replication.[27] Therefore, Chapter 2 is an opportunity to push the norms of qualitative methodology to emphasize replication, and will attempt to replicate parts of Flandreau and Flores's (2012) research.[28]

Before turning to the quantitative analysis, Chapter 3 qualitatively examines the interwar period. The case analysis is interested on how domestic lenders reacted to the likelihood of World War II. In sum, the evidence demonstrates that both the British and German governments were able to manipulate their domestic sovereign credit markets, thus limiting the effect of investors' wariness of conflict escalation.

Chapter 3 is designed to be a deviant case for my theory, which can help refine my hypotheses before the statistical analysis. This proves to be particularly important for this dissertation because the analysis in Chapter 3 helps justify data selection, measurement decisions, and model specification choices in Chapters 4 and 5. In addition, the qualitative analysis in Chapter 3 helps reinforce some of the inferences from Chapter 2 given that many of my theoretical assertions withstand the scrutiny

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[27] For example, the *Journal of Conflict Resolution* and *Journal of Peace Research* require that statistical dataset associated with empirical analysis of a given journal article be made public on the journals' respective websites. These journals do not make the same requirements for qualitative evidence.

[28] Unfortunately, due to their commitment to publish future work related to their IO article, Flandreau and Flores (2012) were not able to share their loan data.

of the deviant case design.

Chapter 4 transitions to the statistical analysis of the dissertation, complementing the causal inferences established in Chapters 2 and 3. Specifically, Chapter 4 uses event study analysis, a statistical technique common in finance and economics, to measure sovereign markets' reactions to the news of militarized dispute. I find support for the assertion that sovereign credit markets' reactions to conflict are conditional to the type of conflict and the characteristics of the states involved.

Chapter 5 provides a statistical examination of sovereign credit's impact on conflict decisions. As argued above, I expect that sovereign investors' preferences for war and peace will have a limited impact on leaders' decisions to initiate conflict. The statistical tests in Chapter 5 test this assertion by examining the relationship of credit costs and conflict behavior.

Finally, Chapter 6 provides a general discussion for the implications of my findings. In addition, given some limitations and unaddressed questions in this dissertation, I suggest some possible avenues for future research.

Chapter 2

The Rothschilds and Austria, 1816 - 1866

The previous chapter outlined my main theoretical expectations as to why governments are able to obtain credit for war. In sum, I argue that sovereign investors will lend to states that pursue mobilization strategies if the risks of unlimited war are low. This chapter - the first of four empirical chapters - examines the sovereign lending dynamics of 19th century Europe with a specific focus on the lending relationship between the Rothschild Bank and Austria. Although hardly fitting into an ideal type, this case study will focus on testing the hypotheses discussed in the previous chapter. I will examine whether sovereign lenders support armament and interventionist policies, and if so, when. The case study approach allows for a close examination of sovereign investors' preferences, particularly how they weigh risks and benefits of different government policies.

The following case analysis is structured as follows. First, I provide justification for case selection, and describe the purpose of my case study design. Next, I outline my theoretical expectations for this case analysis. Then I provide historical background on the sovereign lending market during this time, with a particular focus on the Rothschilds and Austria. Next, I examine the Rothschilds' preferences towards Austrian foreign policy, and determine whether these preferences had any impact on the outcome of international disputes.

2.1 Case Selection

This case analysis will focus on hypothesis testing, and will implement a most similar case design (Przeworski and Tuene, 1970) with the desire to " identify patterns of covariation and to eliminate independent variable that do not covary with the dependent variable" (Levy, 2008, 10). Przeworski and Tuene's (1970) most similar case design has its underlying logic drawn from John Stuart Mill's method of difference, which selects cases with different dependent variable values, but has similar independent variable values except one. For this particular case, the dependent variable of interest is the sovereign market reaction to the new incidence of conflict, measured by changes in sovereign bond yields or available credit (or both). The independent variable of interest is sovereign investors' expectation of an escalated conflict.

The difficulty of successfully implementing a similar case design is finding cases that actually do have similar sets of independent variables. This task is made easier in longitudinal designs in a single state, where several extraneous variables (such as political culture, history, institutions, etc.) do not vary (Levy, 2008). George and Bennett (2005) calls this a "congruence method," which is a within-case comparison that seeks "consistency between a theory's predictions and case outcomes" to serve as "support for a causal interpretation" (183). By itself, congruence methods do not trace a causal process from independent variables to the outcomes of interest. However, it can be combined with a process-tracing approach to "assess whether the congruence between independent and dependent variables is causal or spurious" (George and Bennett, 2005, 182). Process tracing is the "intensive analysis of the development of a sequence of events over time" and is useful in "uncovering intervening causal mechanisms and exploring reciprocal causation and endogeneity effects" (Levy, 2008, 7).

The case study in this chapter will employ a longitudinal, congruence design

focusing on Austria during the 19th century so that I can control for extraneous variables. As I will demonstrate, Austria's ability to obtain credit for their military interventions in Italy was a function of sovereign investors' - most notably the Rothschilds' - expectation of an escalated conflict. In addition, I use process tracing to assess the causal relationship of my theory and address alternative explanations.

Having explained the case design, I now outline why 19th century Austria is the focus of this case study. First, I address why the early 19th century is the chosen time of analysis. Following the lead of Flandreau and Flores (2012), this case analysis will focus on financial intermediaries such as the Rothschild Bank because they dominated the sovereign lending market for most of the century. This market characteristic allows for a clearer determination of sovereign lenders' preferences, as I can center the empirical research on the Rothschilds' preferences and actions, and thus provide a clearer measurement of my main explanatory variable.

Another reason why I focus on the 19th century is to address possible endogeneity. This time period was part of Polanyi's (1944) "Hundred Year Peace" because of the general lack of war. According to data from the Correlates of War data on interstate war (Sarkees and Wayman, 2010), there were ten European wars (three of which were great power wars (Levy, 1982)) from 1816 to 1866 with no state losing more than 100,000 troops in combat. Flandreau and Flores (2012) find that in the few instances there were war, sovereign lending for war purposes is rather limited.[1] The authors attribute this peace to the constraining power of financial intermediaries. Therefore, if intermediaries abhor war and can affect states' proclivity for war, then we would likely observe this behavior during this time because of the lack of war. In other words, this time represents a most-likely case for theories opposed to my theoretical assertions.

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[1] Flandreau and Flores (2012) examine conflict from 1816 to 1913 and found that for the fifty-one wars, lending only occurred in ten (19.6 per cent). This contradicts Cappella (2013) who finds evidence for borrowing for all wars in this time period except one (1911 Italian-Turkish War). As I will demonstrate later, the reason for this discrepancy is Flandreau and Flores's (2012) restrictive coding system.

This case focuses on sovereign lenders' relationships with Austria for several reasons. First, Austria was a key state in continental politics in the post-Napoleonic era, and therefore was consistently involved in conflict across Europe. This increases the number of observations within the case and demonstrates that this analysis has broader implications than just Austrian fiscal politics.

Second, Austria poses a difficult case to explain for the most prominent sovereign credit theories in the literature. Contrary to reputational theoretical expectations, Austria quickly transformed itself from a serial defaulter to one of the most credit worthy states during this time. In addition, Austria was able to complete this transformation without the credible commitment mechanisms found in democratic institutions. The examination of the Austrian case provides an opportunity to provide scope conditions to the most prominent theories in the sovereign credit literature.

Third, many case studies of sovereign credit acquisition have focused on Great Britain, the Netherlands, and the United States (Schultz and Weingast, 1998, 2003). These sovereigns have had steady credit access throughout their respective histories, thus have limited variation on the dependent variable. Conversely, Austria exhibits variation on the dependent variable as it was able acquire credit quite easily pre-1859 and had difficulty doing so post-1859. In addition, the cases of Britain, the Netherlands, and the U.S. have other qualities such as economic growth and technology advancement that may help explain their credit worthiness and are not effectively controlled for in previous case studies. The Austrian case does not possess these potentially spurious factors.

2.1.1   Empirical Expectations

Having outlined the case study design and the case selection rationale, I now present my theoretical expectations for this case analysis.

First, I assume that sovereign lenders, including the Rothschilds, have profit motives. Lending decisions are a function of the risks of default against the potential gains from lending. Therefore, I expect that Austria will face similar sovereign lending conditions in peacetime and mobilization times when investors perceive minimal risk for unlimited war. In Chapter 1, I define a state as participating in an unlimited war if the war is longer than one year or if the state experiences 10,000 battle deaths or more. In this chapter, I further restrict the definition to "continental wars," which are unlimited wars that involve European great powers on opposing sides. I focus on continental wars in this chapter given the international nature of the Rothschild's business. If only one great power is involved in an unlimited war, the Rothschilds could minimize their investment risks by exchanging their bonds for another sovereign's security. However, it is difficult to mitigate the risk of continental wars, given that continental wars tend to depress the prices of all great powers' bond securities, even if the sovereign is not directly involved in the war (Ferguson, 1998, 1999a). For example, Austria's bond prices plummeted more than any other power during the Crimean war despite Austria's non-participation (Ferguson, 1999a, 72).

Given this definition, I expect that if Austria's mobilization or interventionist policies raise the risk of continental war, then lending access should at best become more expensive, or at worst, become completely restricted. I will examine Austria's loan conditions to measure whether risk affected Austria's credit access. To measure loan conditions, I rely on materials from the Rothshilds and Barings' archives, in addition to several secondary sources.

As noted in the previous chapter, a dominant position in the sovereign lending market provides financial intermediaries incentives to reduce information asymmetry between the sovereign debt market and governments. Intermediaries, like the Rothschild Bank, with sufficient presence in the sovereign lending market can incur monitoring costs and tolerate free riders because information acquisition helps

increase market share and decreases the probability of a poor investment. As a result, individual investors will look to signals proffered by the intermediaries. Once the intermediaries lose incentives to monitor sovereigns, then investors will look to sovereigns' latent characteristics to determine risk of default (i.e. regime type, threat environment, conflict history, etc.). In addition, the intermediary investment behavior will mirror that of the general market, given a decreased informational advantage.

The Rothschild Bank was a major sovereign lender throughout the 19th century, but its monopolist position ebbed and flowed with market conditions and informational technology. As a result, this case analysis provides an interesting within case comparison, where the Rothschilds perceptions of risk will change with their position in the market. I expect that when the Rothschilds are in a position of market dominance, they will rely more on information acquisition and sovereign monitoring to determine the risk of their investments. When the Rothschilds lose their position of dominance, I expect that they will rely less on their information strategies, and rely more on the latent characteristics of the sovereigns to determine risk.

Having outlined my theoretical expectations for this case, I now turn to the historical analysis.

2.2   Case Study: 19th Century Austria

The following analysis will examine investors' reaction to Austria's foreign policy to determine preferences. I begin with an outline of Austria's credit history, including the government's business relationship with the Rothschild Bank. I then turn to the main empirical analysis to test the empirical implications of my theory.

2.2.1 Background on Austria's Credit

The end of the Napoleonic Wars brought in a new era of sovereign lending. Because of war, the period of 1793-1815 was characterized by large fiscal deficits for many countries across Europe. While sovereign lending had existed in some form for many centuries, the swath of sovereign debt as a result of war, created new markets and new securities to raise debt. The Rothschilds, a family operated bank, emerged at this time as the leader in sovereign lending in Europe. The Rothschilds built their financial empire by fulfilling the credit needs of Britain during the war. The bank facilitated loans to other states as well and, perhaps more importantly, had the capacity to transfer monies from sovereign to sovereign or from sovereign to the military field efficiently (Corti, 1928b; Ferguson, 1998).

Even with the end of the war, recovery forced states into deficit spending. The debt market remained vibrant, as states continued to finance their war obligations. This only increased the market power of the Rothschilds, whose capital became essential to European leaders.

Besides the emergence of an international sovereign lending market, the end of the Napoleonic Wars also saw a shift of power on the European continent away from France (as it recovered) to Austria, the leader of the Holy Alliance (Austria, Prussia, and Russia). Austria was able to ascend to the pinnacle of European politics behind the guile of its foreign minister, Prince Metternich. It was also during this time that Austria began to enjoy inexpensive credit access from the Rothschild Bank.

It is not clear from reputational or institutional explanations why Austria received favorable loan conditions from the Rothschilds. A close examination of Austria's economic conditions shows that the state had a questionable ability to repay loan obligations. Austria ran deficits in every year from 1815-1847 except 1818, with the average deficit totaling almost £2.6 million (Mitchell 1975). Compare this to Great Britain, who ran modest deficits in only twelve of the 33 years in

question, with an average *surplus* of almost a half of million pounds.[2] Table 2.1 compares Great Britain's deficit surplus as a percentage of total budgetary resources to Austria. Austria ran deficits that were as high as 77 per cent of Austria's total revenue, while Great Britain never ran a deficit higher than 5.9 per cent (Mitchell, 1975). The higher deficits were not the only problem. The comparison of variation deficit/surplus levels (as measured by the standard deviation) in Table 2.1 shows that Austria's fiscal balances were much more volatile than Great Britain. The higher fiscal volatility makes it difficult for investors to determine a state's ability to repay loans, since deficit levels become harder to predict.

Table 2.1: Surplus/Deficit Percentage of Total Revenue: UK and Austria 1819-1847

	UK	AUS
1819	0.0%	-29.0%
1820	3.3%	-77.7%
1821	6.5%	-45.3%
1822	6.7%	-12.9%
1823	8.5%	-44.3%
1824	8.3%	-18.0%
1825	6.9%	-16.8%
1826	-1.8%	-20.7%
1827	-1.8%	-15.0%
1828	7.0%	-15.7%
1829	1.8%	-19.7%
1830	3.7%	-9.5%
1831	0.0%	-52.0%
1832	0.0%	-21.1%
1833	2.0%	-22.1%
1834	2.0%	-23.1%
1835	4.0%	-23.3%
1836	5.7%	-11.4%
1837	-2.0%	-6.3%
1838	-2.0%	-11.3%
1839	-1.9%	-11.7%
1840	-1.9%	-12.2%
1841	-1.9%	-13.2%
1842	-5.9%	-7.5%
1843	3.5%	-10.0%
1844	5.2%	-9.8%
1845	5.3%	-11.0%
1846	5.2%	-14.2%
1847	-5.4%	-33.3%
Mean	2.1%	-21.3%
Standard Deviation	0.04	0.16
Data from Mitchell(1975)		

[2] Using a conservative exchange rate, Austria's average deficit and Great Britain's average surplus equates to a £3 million annual difference.

There are several reasons for Austria's chronic deficits. First, Austria lacked the economic growth and trade that could produce a sustainable level of fiscal tax revenue. Second, Austria followed an ambitious and expensive foreign policy, attempting to maintain control in parts of what is now Italy and Germany while concurrently limiting the continental influence of France and Spain. More than 40 percent of Austrian national fiscal resources were dedicated to the army's budget during times of peace and twice that during years of intervention and war (Sked, 2001).

To finance their fiscal deficits, Austria not only relied on credit, but also followed a policy of currency debasement (the reduction of silver content value from its currency). The result of this policy was volatile inflation, which increases uncertainty about debt repayment. Table 2.2 compares the inflation volatility of the different European countries from 1815-1847, using the standard deviation as a measure of variance.[3] Inflationary conditions led to increased uncertainty in Austria's fiscal activities.

Table 2.2: Inflation Volatility in Europe 1815-1847

Austria	UK	France	Prussia	Spain	Portugal	Holland
16.47	6.45	4.67	15.30	8.17	13.02	3.32

Standard deviation of inflation rates in this time period. Data from Reinhart and Rogoff (2008)

The cursory examination of Austria's economic and fiscal conditions - the factors that affect a state's ability to repay a loan - suggests that Austria was not a credit worthy state. High fiscal and economic instability, coupled with economic policies (debasement) and foreign policies (intervention in Italy) that increased uncertainty around repayment should have deterred investors from extending lines of credit. It did not. Austria was not only able to secure credit, but secured it at favorable

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[3] Inflation data is take from the corresponding data set to Reinhart and Rogoff (2008).

conditions.

At the beginning of the 19th century, Austria was a seasoned borrower, attaining its first foreign loan in 1695 (Tomz 2007). Tomz argues that the long established credit history helps explain low interest rates in Austria in the 19th century.[4] However, Tomz is conflating the concept of an established debtor with a stalwart debtor. Austria may have had over a century of sovereign lending experience, but it did not exhibit stalwart behavior. During the Napoleonic Wars, Austria defaulted four times and then once again right after the war (Reinhart and Rogoff, 2008).[5] While not the most prolific defaulter (this distinction goes to Spain), Austria habitually defaulted on its loan obligations. Austria did not stay in default long, but this was a function of acquiring additional credit rather than implementing curative domestic economic policies.

The first half of the 19th century was characterized by low financial information, which should have made investors more reliant on reputational factors (Tomz 2007). Financial news services and newspapers were non-existent and detailed accounts of government fiscal activities were not readily available. Even if records were available, they were not necessarily reliable. Data comparisons between France and Britain in the 1770s and 1780s indicated that the former was the better debtor, despite Britain's immaculate credit history. The problem of this comparison is that Britain alone used stringent accounting practices, detailing costs of debt and budget information, while France's information was more opaque and less objective (Riley, 1980).

Despite Tomz's prediction that investors should be more likely to rely on the history default as an indicator of the probability of repayment during this time, investors ignored Austria's reputation as a serial defaulter. Austria's credit advantage

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[4] Specifically, Tomz looks at Austria and other established borrowers and finds that they pay lower premium than new borrowers.

[5] Austria defaulted in 1796, 1802, 1805, 1811, and 1816 (Reinhart and Rogoff, 2008). While most of the defaults occurred during times of war, giving support for Austria's fair-weather reputation, the last default did not, suggesting that Austria was a lemon. As we will see, Austria was able to secure rates consistent with a stalwart, contradicting reputational predictions.

also does not conform to the "democratic advantage" explanation. Austria lacked the democratic institutions that Schultz and Weingast (2003) and North and Weingast (1989) link to credible debt repayment. As a monarchy, Austria lacked the veto points and representative institutions that constrained decisions to default.

Austria was not only a non-democratic state, but it repressed liberalizing movements in other states and territories. Austria's foreign policy attempted to prevent democratic institutions from emerging in the Italian and Germanic states, preferring the political stability of monarchies. If investors preferred to extend credit to states with democratic institutions, it appears contradictory that Austria could access inexpensive credit to prevent the emergence of democratic institutions in Europe given that it would limit the emergence of reliable, democratic borrowers. In other words, if sovereign investors preferred to lend to democratic states, they would favor policies that allowed more democratic states to emerge.

Both the "democratic advantage" and the reputational models predict that Austria would pay a higher premium on its credit. Kirshner (2007), Polanyi (1944), and Flandreau and Flores (2012) would also predict that Austria pays higher costs for its borrowing, given its propensity for conflict. However, from 1815 to 1848, the Rothschilds provided Austria low interest loans. I offer an alternative explanation that centers on three factors: profitability, reduced information asymmetry, and geopolitical influence.

The obvious reason why the Rothschild facilitated loans to Austria was profitability. The Rothschilds first major loan with Austria in 1819 was one of the most lucrative financial transactions during this time (Corti, 1928b). Additional loans to Austria proved to be almost equally as beneficial to the intermediary. Austria also generated business for the Rothschilds in Naples and other Italian territories. After an Austrian intervention, the new governments in the Italian territories would have to go to the credit market because Austria required that the target not only pay for reconstruction, but also finance Austria's occupation (Ferguson, 1998).

The second, and related, reason why the Rothschilds lent to Austria is that the Rothschilds were confident that Austria would be able to meet its loan obligations. The Rothschild confidence was tied to its ability to reduce information asymmetry in the lending market. The Rothschilds understood the problem of information asymmetry, and as a result put tremendous emphasis on information acquisition and communication. Individual investors lacked the resources and the incentives to invest in information gathering activities. The Rothschilds suffered neither problem as their market dominance provided both the means and the motivation to acquire information. The Rothschilds' resources allowed the intermediary to delve deeper across a wider spectrum of investment opportunities than a single investor could ever undertake. The Rothschilds' market dominance provided them incentives to maintain their dominance, because it granted higher profit margins in the form of run-ups. In other words, the Rothschilds were motivated to maintain their reputations in order to induce price increases on their bond issues. Information acquisition provided the mechanism to maintain both their reputation and market dominance.

In order to acquire information about their sovereign clients, the Rothschilds spent a great deal of effort to develop relationships within the major political capitals in Europe. In reference to French Cabinet members, James Rothschild boasted, "I know them all; I see them every day ... I see [King Louis Philippe] whenever I wish ... he trusts me completely." (Lottman, 1995, 26). The Rothschilds performed private financial services for individual leaders, services that may be interpreted as acts of bribery (Ferguson, 1998). The Rothschild were also well known for bestowing extravagant gifts to their clients such as Chinese art or live animals from other continents. Prince Metternich's granddaughter once commented on how the best Christmas presents were from Salomon Rothschild (Corti, 1928b, 322).

Perhaps no relationship was as developed and as important as the Rothschilds' relationship with Metternich, whom the Rothschilds referred to as "uncle," both as a term of endearment and as a codename in correspondence (Cowles, 1973). At

the end of the Napoleonic Wars, it became evident to both the Rothschilds and the rest of Europe that Metternich was the most powerful person on the continent. A working relationship with Metternich would mean unequaled access to information and financing opportunities. At the Congress at Aix-la-Chapelle in 1818, the Rothschilds focused their attention on Metternich's advisor, Fredrick von Gentz. Gentz was known to be quite influential and quite bribable, a fortuitous combination for the Rothschilds (Corti, 1928b). Gentz lived a lavish lifestyle, well beyond the means of a civil servant. The Rothschilds saw an opportunity and provided no-obligation loans to Gentz in exchange for information and access to Metternich.[6] The Rothschilds soon accrued the return on their investment in Gentz, as the intermediary was able to garner Metternich's support over the emancipation rights of Frankfort Jews in September 1818 and secured agreements over financial services. The Rothschilds left the Congress at Aix-la-Chapelle with not only financial contracts, but with the foundations to establish a closer affiliation with Metternich (Ferguson, 1998).

The close relationship with Metternich allowed the Rothschilds to accurately gauge Austria's willingness to repay any loan obligations. Metternich had incentives to freely provide information to the Rothschilds for several reasons. First, Metternich benefited from a two-way exchange of information, taking advantage of the Rothschilds' impressive communication network. During the period of 1815 - 1848, the Rothschild information acquisition efforts were supported by a network of couriers that attempted to not only outpace competitor information agents, but also diplomatic information services. The Rothschilds had offices in major cities across Europe (London, Paris, Frankfurt, Vienna, and Naples). Between these offices streamed a heavy volume of correspondence. They even developed a color-coded system to indicate the market news. For the better part of 1815-1848, the Rothschild held an information advantage over competitors and diplomats. The Rothschilds broke the

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[6]Although Gentz had disparaging comments for the the "vulgar, ignorant Jews" in private, he maintained a vibrant working relationship with the Rothschilds until his death (Corti, 1928b).

news of the 1830 French Revolution to the foreign ministers in both Great Britain and Austria (Ferguson 1998). During the series of crisis in Poland, Belgium, and the Papal States in 1831-1832, kings and ministers relied on the Rothschild network to communicate to each other (Cowles, 1973).[7] This arrangement allowed the Rothschilds unfettered access to critical information and allowed the intermediary to insert their own views into the political correspondence. Metternich realized the importance of information, and used the Rothschilds as a means to monitor information flows across Europe (Ferguson, 1998, 232-236). With the Rothschilds firmly embedded in his inner circle, Metternich found it easier to influence their decisions on sovereign lending. For example, in the late 1830s, Metternich pressured the Rothschilds to deny credit assistance to Spain. The Rothschild not only withheld their credit, but liquidated all financial holdings associated with Spain, sending a clear signal to international credit markets (Ferguson, 1998, 364). In return, Austria bestowed royal titles on Rothschild family members and provided positive public relations at a time when anti-Semitism was rampant.

Metternich also had incentives to feed the Rothschild information because it helped maintain Austria's access to credit. The importance of this cheap credit cannot be over-exaggerated. It allowed Austria to maintain a foreign policy that appeared outside of its means. Domestically, it helped Metternich isolate one of his main domestic rivals, Finance Minister Count Kolowrat (minister from 1826 to 1848). Kolowrat led an anti-war coalition within the Austrian elite, given his beliefs that war would have ruinous effects on the Austrian economy (Schroeder, 1994). However, with a continued supply of inexpensive credit, Kolowrat was politically isolated, giving Metternich a free hand to administer foreign policy. In sum, the inexpensive credit facilitated by the Rothschilds allowed Metternich to ignore the

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[7] During this crisis, Rothschild notes were traveling up to three days faster than official diplomatic communications (Ferguson 1998, 233-236).

pacifistic preferences on the finance community in Austria.[8]

The Rothschilds relationships with political leaders and their information network allowed the intermediary to effectively gauge Austria's willingness and ability to repay its loans. The Rothschilds then strategically used this information to convince investors of Austria's credit worthiness. Salomon Rothschild used his influence with Metternich and Gentz to limit criticism in the newspapers. The *Allgemeine Zeitung* was banned through Austria after the widely read newspaper made discouraging remarks against the Rothschilds (Corti, 1928b). The Rothschilds also developed their own relationships with the press in order to gain leverage over public relations issues (Ferguson, 1998, 287-289).

The Rothschilds were fully cognizant of the power of information and also aware that investors looked to the Rothschilds for cues in terms of investment. During the eve of Austria occupation of Naples in 1821, Salomon Rothschild purposely did not travel to meet Metternich, in order to curb speculation of the eventual Neopolitan loan (Ferguson, 1998, 128). Nathan Rothschilds would often use a number of brokers to carry out his market transactions, some buying and some selling, in an effort to hide Rothschild market intentions (Ferguson, 1998, 287). The family also knew how valuable their letters were to both the public and the diplomatic community. Given this, the Rothschilds would purposely leak their letters, if the anticipated reaction would be beneficial.

The Rothschilds did not have informational advantages in all countries, for all time. For example, the Rothschilds information network never extended into Russia, as other financial intermediaries (most notably the Barings Bank and Hope & Co.) were Russia's incumbent lenders (Ferguson, 1998, 246-247). Furthermore, the

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[8] This further suggests that Kirshner's (2007) finance category needs to be disaggregated to account for those who own sovereign debt. As a treasury offical, Kolowrat had interests to limit Austrian spending and avoid the inflationary spending of war. The Rothschilds, on the other hand, had incentives to encourage Austrian spending to increase business. Plus, the Rothschilds were mostly isolated from the effects of domestic inflation given that Austria's debt would help in "Eurobonds" (Ferguson, 2005b). This type of debt security (usually denominated in a foreign security) limited the risk devaluation through inflation.

Rothschilds' access to information depended on their relationships with particular leaders. After Metternich was forced to flee Austria during the 1848 revolutions, the Rothschilds never fully recovered their access to Austrian information. As I demonstrate below, while reduced information asymmetry helped facilitate lending to Austria in the early 19th century, increased information asymmetry helped undermine Austria's credit access as the century proceeded.

Finally, the Rothschilds initially lent to Austria from 1819 to 1847 because Austria's foreign policy was consistent with the Rothschilds' political preferences. These preferences did not favor pacifism, but rather stability. The financial community is normally adverse to war, and therefore cautious of lending to states that follow policies that increase the probability of war (Kirshner 2007). However, during the early 19th century, the Rothschilds stood to benefit from Austria's interventionist policies in two ways. First, interventionist policies were not cheap, and therefore created new lending opportunities for the Rothschilds. Second, the Rothschilds viewed these interventions as a means to contain widespread liberal revolutions and subsequent continental war. With investments across Europe, the Rothschilds feared that another continental war or a rash of revolutions would depress the prices on the international bond markets.

The following section will detail the Rothschilds' preferences towards European foreign policies from 1819 to 1866 with a particular focus on its lending to Austria. I find that the Rothschilds often supported Austria's aggressive foreign policies, challenging the notion that sovereign lenders are dovish. I also find that in the instances where the Rothschilds opposed Austrian policy, the intermediary found itself largely impotent in influencing policy choices.

2.2.2 1819 - 1824 Austrian intervention in Italy

At the conclusion of the Napoleonic Wars, the Rothschilds found themselves as one of the leading sovereign lending intermediaries in Europe. The revenue demands

during the war and afterwards for reconstruction created a new list of sovereign clients for the intermediary. Owning the debt of several Europeans prompted the Rothschilds to fear another continental catastrophe that would simultaneously depress the value of their sovereign debt portfolios. There were two strategies in particular that helped avoid another continental war: containment of France and counter-revolutionary measures.

For the Rothschilds, the keys to contain France were stable domestic politics and strong counterbalancing presence. To stabilize French domestic politics, the Rothschilds sought to provide as much credit as needed. Unfortunately for the Rothschilds they were initially shut out of the French lending, losing out to French firms and the Barings House (Ziegler, 1988). However, the Rothschilds finally facilitated its own loan in 1823 for 23 million francs. This was followed by a loan in 1830 to support France military involvement in Algeria, which was designed to boost the government's popularity (Ferguson, 1998). The Rothschilds wanted to avoid another revolutionary regime change in France, and were therefore keen to support low risk military adventures that were popular with the public.

To counterbalance French power, the Rothschilds lent to the members of the Holy Alliance: Austria, Prussia, and Russia.[9] The Rothschilds made loans to Prussia in 1818, 1822, and 1830 along with a loan to Russia in 1822.[10] The Rothschilds facilitation of credit to Austria was nearly constant beginning in 1819.

The aim of the Holy Alliance was not only to secure peace with France, but also to crush any revolutionary sentiment that may reproduce the conditions that lead to the French Revolution and Napoleonic Wars. This required military intervention, which in turn required additional sovereign credit. The Rothschilds obliged, allowing

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[9] The Rothschilds business to the Holy Alliance was not exclusive. Besides the French lending aforementioned, the Rothschilds were always willing to lend to Britain when needed given the minimal risk involved.

[10] The loan to Russia in 1822 is noteworthy since Russia's normal intermediary of choice was Hope & Co. and Barings (Ziegler, 1988).

Austria, and the rest of the Holy Alliance to effectively "police" Europe (Ferguson, 1998, 127).

The interventionist policing began in 1821, when Austria sought to strike down a revolution in Naples. The Rothschilds fully supported this intervention, as it reduced the revolutionary threat and increased its business with Austria. An Austria finance minster reported to Metternich that "even our financiers, led by Rothschild and Parish, are anxious to see our troops across the Po at the earliest possible moment, and marching on Naples" (Corti, 1928b, 229). The intervention not only led to increased business with Austria, but it created a need for credit for Naples in order to stabilize its internal politics (Rothschild Archive 000/401A/3,8).

The Rothschilds were concerned that they would receive a reputation as warmongers. This concern for reputation had less to do with business, and more on how the Rothschilds, a Jewish family, wanted to be perceived during anti-Semitic times. To avoid a warmongering brand, Rothschild lent to Austria secretly, making cash advances available to the "army on the march" (Ferguson, 1998, 128-129). After the intervention, a formal loan was set up. Therefore, the loans would not show up in Flandreau and Flores's (2012) calculations given that it was not issued in a war year and that the loan was facilitated in the Austrian credit market.

If the Rothschilds disapproved of this military intervention, their lending contradicted this sentiment. In 1823, the Rothschilds had an opportune moment to pressure Austria to end its occupation of Naples. In an effort to end Austrian intervention, Britain called on the outstanding debt owed by Austria, totaling £23.5 million. The Rothschilds quickly organized another loan to relieve the financial pressure on Austria (Ferguson, 1999a).

2.2.3   1830 - 1839 Revolutions in Belgium and Italy

Initially, it appears that the Rothschilds' fears about contagion revolutions came true in 1830, with revolutions in France, Belgium, Poland, and a number of Italian and German states. Of all the regime changes, the two major events that threatened to escalate into a continental war were in Italy and Belgium. Both crises demonstrate that the stability of the European system was not a result of the dovish preferences of sovereign investors, but rather "the ability of great powers to dominate and manipulate the smaller powers and to repress popular movements and revolutions" (Schroeder, 1994, 673).

Belgium 1830 - 1839

After the Napoleonic Wars, Belgium was removed from France's power and placed back under the realm of the Netherlands. In the late 1820s, amid economic unrest, a grassroots revolution emerged, which later transitioned into a secessionist movement. In 1830, revolutionary sentiment reached Brussels. The revolutionaries organized a national congress, put Leopold I into power, and declared its independence from Netherlands. These events had several important international implications. First, European powers feared that France would attempt to intervene in Belgium to either re-establish a sphere of influence or more forcefully annex Belgium. Belgium shared a language, a religion, and a history with France, and therefore, it was within the realm of possibility that a post-revolution France had incentives to intervene.

In 1830 France, the new government needed loans right away, and James was determined to be part of these "big deals" (Ferguson, 1998, 248). The problem for the Rothschilds is that they could not ensure that the loans were not used for military means. Given that a number of other financial houses were involved in financing France's debt, the Rothschilds were unable to put any meaningful conditions on the loans. All they could do was "hope" that war would be averted (Ferguson, 1998, 249).

This did not mean that the Rothschilds wanted to France to avoid a military build-up, as France had to show enough resolve to deter Russian interference. To assist with this French resolve, the Rothschilds sold 28,000 guns to France.[11] Ultimately, the new French regime's desire for international recognition, plus existing military obligations in Algeria and Greece made intervention an unappealing French strategy (Schroeder, 1994).

Members of the Holy Alliance had existing treaty obligations with the Netherlands, and may have been compelled to intervene to re-establish Dutch control (Ferguson, 1998). Prussia considered intervention to incite war with France, which appeared inevitable and had better-now-than-later incentives (Schroeder, 1994). Russia appeared motivated to crush the Belgium revolt to deter revolutionary sentiment both at home and abroad. Austria also wished to quell any revolutionary attitudes in Europe.

Belgium's declaration of independence demonstrated a higher uncertainty for the Rothschilds since their information network did not extend into Russia as it did into other countries. Even so, there is no evidence that the Rothschilds disapproved of Russian behavior or attempted to constrain Russian behavior. There was disagreement between the Rothschild brothers on whether to provide additional loans to Russia during this time. However, the disagreement stemmed more from a business standpoint rather than a diplomatic one. James Rothschild was unsure if he could float a Russian loan in Paris given the level of sympathy for Poland in France. In addition, James felt that the fact that Russia was asking the Rothschilds for a loan as a sign of desperation. The Rothschilds were not Russia's normal sovereign lender. As it turns out, Russia was attempting to attain some leverage over its normal lenders, and never really considered the Rothschilds for a loan. The Rothschilds did some

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[11] In 1832, the Rothschilds again tried to exert its influence over France, and insisted that a new loan would not be issued until after the Dutch relinquished its claim on Belgium. However, by this time the crisis in Belgium was effectively over, and probability of French intervention was low (Ferguson, 1998, 248).

business with Russia during this time, including a cash advance of £400,000 and selling some guns (Ferguson, 1998, 246).

The Rothschilds walked a fine line of support for both sides of the conflict. The intermediary provided loans to the members of the Holy Alliance (who supported the Dutch in the crisis) and France (who supported the new Belgium regime). If war did break out over Belgium, the Rothschilds were determined to be part of the any wartime lending. Which side they joined depended on who instigated the war. In a note to his brother Nathan, James Rothschild stated bluntly that "[i]f France does not remain quiet, but takes action against the other three powers, we shall join the three powers, but if the other three powers take action against France, we shall join France" (Ferguson, 1998, 242). This suggests that lenders would finance military action in response to military threats.[12]

The Rothschilds also made loans directly to the Netherlands and Belgium. Within months of the revolution, James Rothschild had forwarded one million francs to help Belgium "weather the storm" (Ferguson, 1998, 251). In addition, they immediately offered a loan to the Dutch to persuade them to recognize Belgium. When the Dutch invaded in 1831, Nathan offered to sell guns to Brussels. Instead, the Rothschild lent £2.75 million to Brussels in 1831. There were conditions designed to prevent the outbreak of war (Flandreau and Flores, 2012), but these conditions were more for investor confidence than an actual political constraint. In August 1832, another loan was made to Belgium, followed by a third loan the following year. Ironically, it was the French government, not the Rothschilds that warned that it would be "madness for us to give the Belgians money just at this moment and to giving them every facility in making war" (Ferguson, 1998, 252). James Rothschild had strong a belief that Belgium would do nothing militarily without the support of France. As a result, the Rothschilds freely lent to Belgium.

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[12] I will examine the role of lending in the face of threat in a subsequent chapter using quantitative analysis.

In 1838, the Rothschilds did withhold payment until Belgium promised to avoid conflict, but this was not a necessary condition for peace. France's affinity for Belgium had waned since 1832, thus no major power was on the side of Belgium in any potential conflict (Jardin and Tudesq, 1983). Again, the Rothschilds' demand for peaceful proclamations was designed more to pacify the fears of potential investors than constrain Belgium.[13] Belgium was already constrained by the great powers. Regardless, once Belgium received its credit payments, the Rothschilds could do little to punish the state for violating its promise. As James Rothschild astutely observed to his brother "My dear Nathan, we do not have troops to force the government to do that which it does not want to do" (Ferguson, 1998, 363).

War did not break out over Belgium. Prussia became distracted by domestic issues, Austria shifted its focus to Italy, and France, eager to gain international recognition, retreated from its initial threats. However, it may have been the revolution in Poland in November 1831 that was the biggest factor in preventing war over Belgium. Russia was set to send troops from Poland to support the Dutch, when revolution in Warsaw broke out (Jardin and Tudesq, 1983). Russia was forced to keep its troop in Poland to crush the revolution (Schroeder, 1994).[14]

Italy 1830 - 1831

After the revolts in Paris and Brussels, revolution appeared imminent in Italy after Pius VIII died in November 1830, weakening the papal regime's ability to prevent a revolt (Schroeder, 1994). The papacy lost control of control in Modena, and then called upon Austria to intervene. Unlike the intervention in 1821, it was more likely that France would offer resistance. France wanted to limit the influence of the

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[13] Belgium received additional loans in 1840 and 1842.

[14] Ferguson (1998) argues that it was a matter of luck, rather than Rothschild design, that the British Whig government averted war over Belgium (247). After the French revolution in 1830, James Rothschild wrote his brother Nathan that if Britain intervened into the affairs of the new French king Louis Philippe "we will get a general war" (Ferguson, 1998, 236).

Austrian intervention to allow for regime change in Italy or at least break Austria's ties with the papacy (Schroeder, 1994). France mobilized 80,000 troops and warned both Vienna and the papacy against an intervention (Schroeder, 1994).

Austria again wanted to move quickly against the Italian revolutions, but the new regime in France was poised to support the revolution (Jardin and Tudesq, 1983). Austria risked intervention anyways, and with the help of another loan from the Rothschilds, sent forces to both Modena and Bolagna. France made threats of retribution for Austria's actions in Italy in 1830, but James Rothschild had developed a close enough relationship with French rulers to view these threats as non-credible. Constant back channel communication between the two powers, facilitated by the Rothschilds, limited the risk of the continental war. With their relationship with France, James Rothschild could "regard the course of events [of 1830 - 1832] much more calmly, according to all the information" despite the rumors of an impending war (Corti 1928a, 29-30). France signaled that while it would be upset with Austrian intervention in Modena, France would only become involved in Austria entered Piedmont (an area considered a buffer between France and Austria). Metternich reassured France that Piedmont was not part of its strategy. Even after the French occupied the area of Arcana in February of 1831, the risk of war remained relatively small.

With their close connection with France, the Rothschilds were confident that the probability of a continental reaction to Austrian intervention was low. The Rothschilds strategically did not share their full assessment with Metternich, and even exaggerated French intentions, in an effort to constrain Austria's ambitions. This proved useful in preventing Austria's interference in Belgium (Corti, 1928a).[15] With the low perceived probability of a continental war, the Rothschilds freely lent to Austria to decrease the probability of revolutions, firmly believing that Metternich

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[15] While the Rothschilds appeared to encourage constraint during the crises in 1830, this was a more a function of the Rothschilds control of information rather than their control over sovereign credit.

had the power to maintain stability in Europe.

Even with Rothschilds' diplomatic knowledge, Austria's interventionist policy in 1830 had a higher probability of leading to continental war than the interventions in the 1820s. The Rothschilds influence in Austria was also greater in 1830 as Austria's solvency was dependent on a continued line of credit. Therefore, if Rothschilds opposed Austria foreign policy, and wanted to constrain Austrian actions, then we are more likely to observe the constraining influence of intermediaries. However, the Rothschilds continued to financially support Metternich, providing a 30 million gulden loan in the spring 1830. Another 36 million gulden loan was made in March of 1831 (Ferguson, 1998, 250). Both of these loans were facilitated by a consortium of houses, which effectively undercut any monopolistic influence that the Rothschilds might have had. Nonetheless, the Rothschilds continued to lend with enthusiasm. A clause was included in the 1831 loan, to force immediate repayment in the event of war, but it is not clear if this clause was designed to deter Austria (which it did not) or alleviate concerns of potential investors (which it did).

The Rothschilds finally voiced opposition to Austrian borrowing in 1832 (Cowles, 1973), but by this time international tensions were low and chance of a continental war was slim. Austria had already recognized Belgium, and the conflict with France effectively was over. It also appears that the objection over additional lending may have been more technical than political. There was disagreement between Austria and the Rothschilds whether a new loan should be backed by metallics or issued as treasury bills. After this dispute was settled, the Rothschilds were happy to loan 40 million florins in 1833 and 25 million gulden in 1834 (Ferguson, 1998, 251).

2.2.4   1840s - Rearmament

After the revolutions of the early 1830s settled, tensions in Europe became relatively low. At this time, states had less demand for sovereign credit to pay for military expenditures. While peace may provide the macroeconomic and market stability

that war cannot, peace does not offer the same lending opportunities. In short, peace was bad for the sovereign lending business. In the mid 1830s, the Rothschilds, lacking opportunities with other European powers, were inclined to chase speculative investments in the hopes of producing profits. Unfortunately, many of these investments, including loans to Portugal and Spain, turned sour (Ferguson, 1998).

The Eastern Crisis emerged in 1839, when the Ottoman Empire struggled to maintain cohesion, as Egypt and Syria threatened to break away under the leadership of Mohamed Ali (Schroeder, 1994). European powers had incentives to save the Empire to maintain geopolitical balance - particularly against Russia in the east. Initially, Britain, France, and Austria organized to intervene in Turkey before the Sultan became too dependent on Russian aid. However, Russia drove a wedge between France and Britain, forming an alliance (along with Austria and Prussia) that pitted France against the rest of the major powers. By this time, the Rothschilds owned very little major power debt (Ferguson, 1998).[16] While they preferred peace, the brothers were less adamant in pressuring for peace since their financial portfolio was not in danger of devaluation.

The key to peace was constraining France's nationalistic fervor. When rentes, the main French debt security, depreciated during the crisis, the Rothschilds did nothing to interfere, given that they were not losing money. However, it is unclear whether this was a necessary constraint on France, who faced a formidable alliance of Great Britain, Austria, Prussia, and Russia. As a result, France focused its military strategy on defense, specifically fortifying Paris. This was ideal for the Rothschilds

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[16] How much debt an investor owns from a particular state should affect investor preferences towards that state's policies. In Chapter 1, I asserted that owning a sovereign debt would make it more likely that a investor would be willing to lend for mobilization purposes to protect existing investments. There is evidence that the Rothschilds and its competitor, Credit Mobilier, attempted to depress each others investments as they vied for new business in Austria during the Crimean War (Corti, 1928a, 331-333). Unfortunately, there is a lack of reliable data (from both secondary and archival sources) on the specific amounts of debt that intermediaries owned. The Rothschilds had incentives to hide the contents of their portfolios to deter speculative sell-off/purchases from their competition (Ferguson, 1998). More research is needed to explore how existing investment affect investor preferences.

as it created a demand for new credit, but did not raise the probability of war. Loans totaling a half of billion francs were made to France in 1841, 1842, and 1844 (Ferguson, 1998). Other governments began to rearm - giving additional business to the Rothschilds. Austria received a loan in 1841, and Russia received financial assistance for its intervention in Hungary in 1848. Mobilized peace turned out to be more profitable than peace for the Rothschilds.

The Rothschilds enjoyed general prosperity in the 1840s until revolutions broke out again in 1848. These revolutions severely depressed the value of sovereign securities across Europe, undercutting the Rothschild monopoly in the lending markets. In addition, the revolutions led to the ouster of Metternich from Austria. Without the diplomatic maneuvering of Metternich, the Holy Alliance disintegrated and Austria lost its dominant position in diplomatic affairs.

By this time, the Rothschilds also lost their monopoly over information acquisition due to advances in technology. The telegraph and railroads allowed competitors to communicate across Europe in a manner that once only the Rothschilds could. James Rothschild protested that "the telegraph is ruining our business" (Ferguson, 1999a, 64). The genius of the Rothschild model was the full integration of five separate branches across Europe. Their courier network kept the five branches in full communication, exploiting the full market power of Europe. The inclusion of the telegraph and railroad allowed competitors to replicate the Rothschild model. Subsequently, with this new technology came an influx of international banks, eroding the Rothschilds dominant market position in Europe. This mitigated the Rothschilds' incentives to collect information. Places where Europe remained unconnected via the telegraph, provided the Rothschilds a competitive advantage (North and South America, India, and Australia). In other words, Rothschilds lost their competitive advantage in Europe, but remained dominant in their role as a global bank.

2.2.5   1848 - 1849 Austrian Intervention in Italy

The post-revolution Austrian government proposed a new loan to the Rothschilds in March of 1848. Unable to assess the risks with new regimes in France and Austria, Anselm Rothschild dismissed the loan as "a great nonsense" and "a stupid project" (quoted in Ferguson 1998, 472). The Paris house also denied the French government a loan in April because it was unsure whether the loan would be used to intervene in Italy where Austria had again occupied Modena. The Rothschilds were particularly worried that Louis Napoleon Bonaparte, the eventual president (and later emperor) would follow the same expansionist foreign policy as his uncle. When Bonaparte was elected in December of 1848, James Rothschild stated that what "interested us the most [is] whether we will have peace" in Italy (quoted in Ferguson 1998, 475).

France did intervene, but on the side of Austria and the papacy. This unexpected move helped reassure the Rothschilds that war was not imminent. As Nat Rothschild noted "when troops begin to move bondholders are frightened; in this case it is for the re-establishment of order, and I trust it will produce a good effect" (quoted in Ferguson 1998, 477). Soon afterwards, the Rothschilds, assured the risk of continental war was low because of the French-Austrian alliance, restarted loan negotiations with the Austrians. In September 1848 a 71 million gulden loan in treasury bills was issued. The Paris house was contracted to facilitate a loan for Piedmont, so that Austria would be paid an indemnity for its 1848 war. In addition, the Rothschilds approached the new French regime about the possibility of a new loan (Ferguson, 1998).

It should be noted that unlike previous interventions, the Rothschilds waited to lend to France and Austria until the military campaigns were underway and the consequences of the conflict appeared evident. Loss of informational advantages compounded by new regimes prevented the Rothschilds to accurately evaluate the risk of continental war. As a result, the Rothschilds withheld credit when the risk

of war was uncertain and then lent enthusiastically when the risk was low. It should also be noted that the restricted credit did not discourage either France or Austria's military strategy

2.2.6   1853 - 1856 Crimean War

The Crimean War was fought primarily between Russia on one side and Britain and France on the other, over the issues of Russian influence over the declining Ottoman Empire and access to the Black Sea. Although the Rothschilds relinquished some of it monopoly as a sovereign creditor after the 1848 revolutions, the intermediary remained important to governments' war finance. For the Crimean War, the Rothschilds facilitated substantial loans to Britain,[17] France, Austria, Prussia, and Turkey (Corti, 1928b; Ferguson, 1999a). Up until this time, the Rothschilds had feared a continental war, as it potentially depressed the value of existing debt. Initially, their fears were confirmed when government securities decreased in value 10 - 25 per cent at the onset of war in 1853. However, the Crimean War reasserted Rothschild dominance in the sovereign lending market, and found that they had been "exaggerating the financial dangers of war" (Ferguson, 1999a, 72). The war provided lending opportunities across Europe. Before the war began, James Rothschild made it clear that "any sum was at command" for the French government (Ferguson, 1999a).

Although Austria was not militarily involved in the conflict, it did mobilize for war to provide credibility to its diplomacy (Corti, 1928b). Austria's military spending increased almost as much as France from 1852 to 1855 (42 per cent increase

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[17] The Rothschilds would continue to help support British war expenditures for the rest of the 19th century. Between 1850 and 1885, Britain was involved in conflicts in Afghanistan, China, Abyssinia, Mexico, Japan, Persia, Egypt, Sudan, Ashantee, Zululand, Transvall, Canada (New River), Burham, New Zealand, Kaffir, and India, and had disputes with both France and the United States that could have escalated to war (Buxton, 1966). As a result there were only two years during this time period that Britain did not need additional credit to finance their war expenditures.

for Austria compared to 53 per cent increase for France) (Ferguson, 1999a). The Rothschilds issued an Austrian loan in 1852 (£3.5 million at 5 per cent) to help support its expected military spending (Rothschild Archive 000/401B/11). During the war, Rothschilds along with a consortium of other banks issued an additional 34 million gulden loan (Ferguson, 1999a). The return of Metternich to Vienna in 1851 as an advisor to Franz Josef helped increase the Rothschilds' confidence that Austria was not going to intervene in this conflict (and thus escalate it). The presence of Metternich in the inner circle of Austrian decision makers - even without an official capacity - helped assure the Rothschilds that Austria would not rush into war (Corti, 1928b).

The argument could be made that the Rothschilds lent during the Crimean War because the alliance of France and Britain were destined to be the obvious winners. However, other prominent lenders lent to Russia, including the Barings Bank. The Barings Bank had clients on both sides of the conflict, but had just facilitated a £5.5 million loan to Russia in 1850 (Barings Archive 202254.2).[18] The lenders continued to service Russian credit during the war. Although they were forbidden to raise capital for the Russians in the London market, Barings did continue to make interest payments on Russia's behalf to maintain the country's credit rating (Ziegler, 1988).[19]

2.2.7   1859 Italian Unification

One of the smaller, and oft overlooked participants of the Crimean war was Piedmont, the Italian territory that acted as a buffer between Austria and France. By fighting on the side of France in the Crimean War, Piedmont hoped to forge an

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[18] The Rothschilds had lobbied hard to acquire the contract to issue this Russian loan, but lost out to Barings (Ferguson, 1999a).

[19] This is not the first time that Barings found itself on both sides of a war. The bank made interest payments on the behalf of the United States during the War of 1812, although it continued to lend to the British government. In addition, Barings lent to both Russia and Japan for their war in 1904 (Ziegler, 1988).

alliance that would allow full Italian unification. At the end of the Crimean War, the French emperor, Napoleon III, enjoying the height of his power looked to gain leverage over a weakened Austria.[20]

Piedmont's strategy for unification started as early as 1856. Needing funds for mobilization, Piedmont Prime Minister Cavour requested a loan from the Rothschilds, but with the rationale that their rail system needed expansion. In a letter to the treasury secretary, Cavour warned that the loan cannot "give rise to the opinion that we require it in preparation for war...If therefore you speak with Rothschild about any proposal for a loan avoid saying anything that might lead him to suppose that we are contemplating a *terza riscossa* [third resumption of war]" (Corti, 1928b, 343).

By the time Austria intervened in Italy again in April 1859, France was expected to intervene on the side of unification supporters. Prima facie, this should have deterred the Rothschilds in taking a vested interest in this conflict. Indeed, early warnings of French intervention in December 1858 caused a depression in rentes (the French debt security). This prompted Napoleon to claim that "I have not got the bourse [French financial market] behind me, but France is on my side" (Corti, 1928b, 347).

However, it is unclear if the Rothschilds expected the war. James Rothschild made several attempts to ascertain from Napoleon III whether the government intended to support Piedmont if Austria intervened in Italian affairs again. While the French emperor made several personal assurances to James that France did not intend to interfere, public statements both in the press and during diplomatic events clouded assessments in regards to French intentions. At the same time, Napoleon made no objections when the Rothschilds informed him they intended to float another loan to Austria in 1859 (Corti, 1928a, 345-348).

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[20] Napoleon was also dismayed with Austria's non-intervention strategy during the Crimean War (Corti, 1928b).

There are no clear statements from the Rothschilds in regards to the expectation to the war. There are several reasons why they may have expected France's role in the war to be limited. First, Napoleon exaggerated the level of support of the French people. James Rothschild stated that "The Emperor does not know France. Twenty years ago a war might have been proclaimed without causing any great perturbation, ... but today everybody has his railway coupons or his three per cents" (Ferguson, 1999a, 91). In other words, more people in France had a financial stake in peace in France. There was also French resistance given that French geopolitical interests in Piedmont were unclear. France faced far more formidable threats from Prussia (over the Alsace Lorraine territory) and Britain (who began to grow skeptical over Napoleon III's expansionist foreign policy) (Kennedy, 1987). These constraints may have led to Rothschilds to believe that even if France intervened, the war would be short. Ferguson(1999, 99) writes that the fact that Rothschilds ended up financing all sides of the conflict suggests that the Rothschilds expected the war to be limited, and therefore profitable. But that analysis is based on a tautological assessment that Rothschild actions reveal Rothschild preferences.

While the evidence regarding the Rothschilds' expectation of French involvement is mixed, there is clearer evidence that the Rothschilds were ultimately surprised by Austrian actions. The Rothschilds believed that Austria would not initiate a war against Piedmont if Piedmont had French support (Ferguson, 1999a). Austria did in fact initiate conflict in April 1859, and war followed. However, if the Rothschilds made a miscalculation, it was underestimating the margin of error in Austrian decision-making. Austria initiated the conflict with the belief that both Russia and Prussia would lend support. However, Russia was wary of engaging French forces so soon after the armistice of the Crimean War and Prussia wanted to see a weakened Austria to accelerate the unification of Germany (Ferguson, 1999a, 98-99).

The Rothschild's difficulty in evaluating the geopolitical situation in 1859 can be attributed to increased competition in the lending markets. Napoleon III and

Piedmont could rely on other banks, most notably Credit Mobilier, to help facilitate their loans. In addition, the Rothschilds lost their monopoly over information as discussed above. Without a monopoly of financial resources and information, it was no longer necessary for governments to include the Rothchilds in the inner circle of decision-making. However, this war did not lead to disaster for the Rothschilds. Even though they had financial interests in each of the three participants, each state repaid their debt obligations. In fact, given the lending business of both war preparation and post-war settlement, the Italian unification era were some the most profitable years in the history of the Rothschilds (Ferguson, 1999a, 93-94).

In many respects, the Rothschilds were fortunate that the war did not extend. Their assessment of the probability of war was incorrect given the surprising alliance between France and Piedmont and Austrian geopolitical miscalculations. Fortunately, the war was limited. The Rothschilds did not want to want to push their luck and, as we will see in the next major power war, looked to limit their investments for war participants.

2.2.8   1864 - 1866 End of Credit for Austria

With the successful investment associated with the Crimean War and the Italian unification, the Rothschilds returned to their preeminent position in the lending market. However, with a slew of new international banks in Europe, market competition was on the rise. If the Rothschilds refused to provide war participants with credit, government had options. As Ferguson (1999a) argued, that the defeat of Austria (in Italy in 1859), France (in Germany in 1870), and the Confederacy (in the U.S. in 1865) can be attributed to these governments being "less able to exploit new sources of finance." However if governments were losing wars because of a lack a cheap credit, it "did not prevent them from starting [wars]" (98).

After 1859, the Rothschilds felt fortunate that France did not push their advantage against Austria and that Austria remained committed to repay its debt.

However, the Rothschilds did not believe this commitment would continue especially if another war presented itself. In sum, the information asymmetry between the Rothschilds and Austria increased, decreasing the Rothschilds' confidence in debt repayment.

While Rothschilds were involved in a few small transactions with Austria in 1860 and 1862, the bulk of their financial strategy post-1959 was liquidation of their Austrian holdings. As a result, interest rates in Austria fluctuated between 7.5 and 12 per cent from 1860 to 1868(Homer and Sylla, 2005). The era of cheap international credit was over for Austria. Figure 2.1 shows the credit advantage that Prussia had over Austrian in the latter half of the 19th century.[21] This increasing gap corresponds with Austria's diminishing position in European politics.
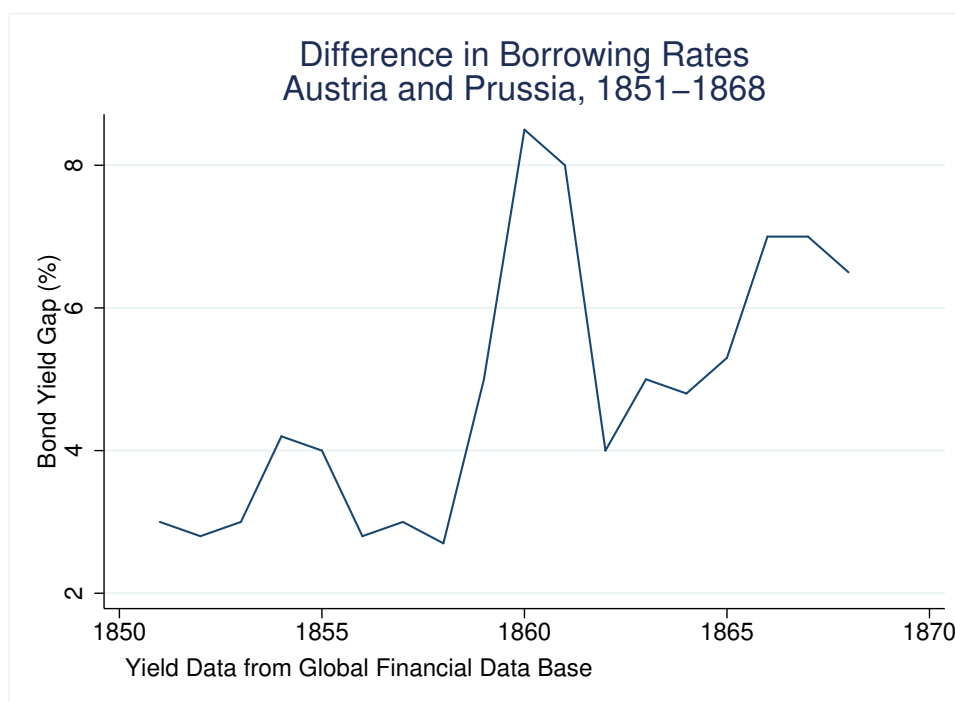
Figure 2.1: Prussia and Austria Interest Rate Difference

When the Holstein Crisis emerged in 1864, the Rothschilds were wary of any lending to Austria. The crisis had its origins from the Second Schleswig-Holstein

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[21]The bond yield gap is measured by Prussia's bond yield minus Austria's bond yield.

War in 1864 between Denmark on one side and Prussia and Austria on the other, over the Schleswig-Holstein territories. Although, the Prussia-Austria alliance was expected to easily win, Austria could not secure any loans from the Rothschilds (Ferguson, 1999a).

Immediately after the war, the alliance dissolved because of disagreement over the ownership of the Holstein territory. In 1865, the Austrian requested a loan from the Rothschilds to begin new war preparations. At first, the intermediary appeared amicable as long as the credit was limited (£1 to £2 million) and issued in tandem with other intermediaries. The fact that Rothschilds sought to include other lending houses into the deal demonstrates that they understood the increased risk of lending to Austria. Eventually, the Rothschilds backed away from this deal. Instead of lending to Austria for war preparations, the Rothschilds preferred to lend to either Prussia or Italy to purchase Holstein or Venitia, respectively. The Rothschilds believed that by selling one or both lands to its rivals, Austria could regain stability over its finances and decrease the probability of a future war. As it stood, it appeared unlikely that Austria could hold its influence in both Germany and Italy. Austria ultimately attempted to do just that, and lost both parts of land as a result of the Seven Weeks War against Prussia and Italy.

As war appeared likely in 1866, each of the participants approached the Rothschilds for loans. Each was eventually rebuffed. The Rothschilds, along with many other observers believed that Austria would actually win the war (Kennedy, 1987). Therefore, Prussia and Italy did not seem like prudent investments and wanted to restrict loans to the purchase of the disputed land from Austria. As noted above, the Rothschilds restricted their lending to Austria with the belief that its interventionist foreign policies were no longer sustainable. James Rothschild summed up the intermediary's thoughts on the war with this statement: "it is the principle of our house not to lend money for war; while it is not in our power to prevent war, we at least want to retain the conviction that we have not contributed to it" (Ferguson,

1999a, 91).

After its defeat, Austria was isolated from Western Europe and looked to the east to form new diplomatic and economic relationships. Austria's economic alliances with Turkey and Hungary worried investors due to financial volatility in these two countries. The eventual *Ausgleich* between Austria and Hungary raised issues of legality of issuing new bonds that troubled British investors (Ferguson, 1999a). While Austria remained tangentially involved in European politics up until 1914, the Rothschilds no longer viewed Austria as a viable profit source. With the passing of Metternich, the Rothschilds no longer had inside information on the workings of the Austrian government. Alphonse Rothschild (son of James, from the Paris House) complained that "despite [Anselm Rothschild's] good relations with the [Austrian] government" he was "often ill-informed about what goes on in Vienna" (Ferguson, 1999a, 174).

In addition, Austrian foreign policies were no longer low risk affairs with the rise of Prussia and the unification of Italy. As a result, the other Rothschild houses pulled their support from the operations in Vienna. Initially, this did not stop Anselm Rothschild, director of the Vienna house, to offer financial support to Austria (Ferguson, 1999a, 174-175).[22] However, without the support of the London and Parisian markets, Austria's borrowing options were limited.[23]

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[22] The non-Vienna houses were upset with the independence of the Vienna house. Mayer Carl Rothschild (from the Frankfurt house) accused Anselm of "always advocat[ing] the interest of the [Austrian] government and never our own" (Ferguson, 1999a, 174).

[23] It should be noted that in 1868, James Rothschild, the last of the surviving brothers of the patriarch Mayer Amschel Rothschild, died. With him ushered in a new generation of Rothschilds were were firmly assimilated in their respective home countries. Ferguson (1999a) describes the growing separation between the various Rothschild houses during the later half of the 19th century, particularly for the Vienna House.

2.3   Conclusion

The preceding analysis focuses on sovereign investors' preference for foreign policy strategies. I find that lenders do not always prefer dovish policies. Lenders sometimes prefer militaristic policies as they increase lending opportunities. Even if lenders disapprove of a government policy, there are limited options for recourse. Competition within the sovereign lending market allowed sovereigns to play lenders off one another. Even the Rothschilds, who enjoyed a near monopolistic position in the sovereign lending market from 1816 - 1848, had little leverage over sovereigns. The Rothschilds were willing to accept a sovereign's demands and "pay above the odds to keep rivals at bay" (Ziegler, 1988, 140).

These findings contradict previous scholarship that has asserted that finance prefers peace (Kirshner, 2007). Table 2.3 shows the Austria's interventionists foreign policies were well supported by the Rothschilds as long as the risk for a continental war was low. The lone exception was the Crimean War, where the probability of a continental war was high, but the probability of Austrian participation was low.

Table 2.3: Austrian Military Activities 1821 - 1866

Conflict	Year	Rothschild Loan?	Rothschilds' Expectations for Continental War
Naples Intervention	1821	Yes	Low
Belgium Crisis	1830	Yes	Low
Italy Crisis	1830	Yes	Low
Rearmament	1840s	Yes	Low
Italy Intervention	1849	Yes	Low
Crimean War	1853	Yes	High*
Italian Unification	1859	Yes	Low
Austria-Prussian War	1866	No	High

* Austria did not participate militarily.

The analysis in the chapter also challenges the assertion that finance has a pacifistic effect on states' foreign policies (Flandreau and Flores, 2012; Polanyi, 1944).

There are several reasons for this contradiction. First, previous scholarship has focused on finance as a homogenous community, ignoring that some within the finance community lend sovereign debt, while others do not. I argue that sovereign credit investors have different preferences for government policies than those in finance who do not own sovereign debt. War may create risk and uncertainty for finance, but it also creates lending opportunities for those in the sovereign credit business.

In addition, previous scholarship specified finance's preferences over outcomes rather than government strategies. I have focused on investors' preferences over government strategies and have found that lenders do not always prefer the most pacifistic strategy. The advantage of my specification is that it accounts for the strategic interplay between states in international relations.

Empirically, my results differ from previous studies for two major reasons. First I examine loans that are made to states for military purposes during non-war years. Table 2.4 lists all the sovereign loans the Rothschilds floated in the London market from 1815 to 1847. Of the twenty-four loans, four directly finance military interventions, two helped stabilize regimes after interventions, two helped regimes during civil wars, and two help general armament programs.[24] In addition, five loans financed new regimes that gained independence through revolutions. While there was a lack of war lending at this time (because of the lack of wars), the Rothschilds did lend to help finance government policies that may have led to war.

The second reason why my findings differ from previous studies is I account for lending in non-London markets. In their analysis, Flandreau and Flores (2012) find that only five percent of loans from 1816 to 1914 were made during war years. This does not include loans that were made during the lead up of wars or for military activities that did not lead to war. In addition, the authors do not account for loans

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[24] Governments may have multiple motivations to borrow, but Table 2.4 identifies the main reason as framed to the sovereign investors.

Table 2.4: Rothschild Sovereign Loans in London Market, 1815-1847

Year	Country	Reason for Borrowing
1823	France	Spain Intervention
1823	Portugal	New Regime
1824	Austria	Naples Intervention
1824	Brazil	New Regime
1824	Naples	Regime Stabilization
1825	Brazil	New Regime
1825	Hesse	Unknown
1829	Brazil	Civil War
1829	Britain	Financial Crisis
1830	France	Algeria Intervention
1830	Prussia	Re-Armament
1831	Holland	Stability
1832	Belgium	New Regime
1833	Greece	New Regime
1835	Denmark	Unknown
1835	Portugal	Civil War
1835	West Indies	Compensation for Slave Owners
1838	Belgium	New Regime
1839	Britain	Interventions in Afghanistan and China
1839	United States	Bank of U.S. Bailout
1841	French	Re-Armament
1844	Belgium	Infrastructure
1845	France	Railways
1847	Britain	Irish Famine

Sources: Ferguson (1998), Buxton (1966), Rothschild Archive.

subscribed in non-London markets (i.e. Paris, Amsterdam) or domestic loans. As a result, the authors severely underestimate the prevalence of lending for military purposes.

While lenders do not always prefer dovish policies, they are not warmongers. Sovereign investors are still concerned about the macroeconomic risks of war. However, since investors have limited capacity to affect whether war will occur or not, they are often better off facilitating loans for states at war to increase business opportunities if the benefits outweigh the risks.

This case analysis focused on international sovereign lenders, specifically inter-mediaries and their preferences towards governments' foreign policies. Omitted from this analysis is the preferences of domestic lenders, who are often the investors who purchase the debt from the intermediaries. The next chapter will focus more on domestic investors through a case analysis of the interwar period in Europe.

Chapter 3

Britain and Germany Pre-World War II Cases

In the previous chapter, I examined the case of 19th century Austria and found that sovereign lenders, particularly the Rothschilds, were initially willing to lend to Austria for military purposes because the investors were confident that the Austria's military campaigns would not escalate into unlimited, continental wars. As a result, Austria enjoyed inexpensive credit, which allowed it to employ an ambitious foreign policy. Once creditors lost confidence in Austria's ability to deter France and Prussia from intervening in their military campaigns, the spout of cheap credit shut off.

The analysis of the Austria-Rothchild case is consistent with the theoretical predictions outlined in Chapter 1 in this dissertation. Specifically, I predicted that investors would be willing to lend to states that are unlikely to find themselves in unlimited wars.

I now turn to two more cases: Germany and Great Britain before World War II. I expect that these are deviant cases for my theory given it seemed likely that Germany and Great Britain would go to war, and that the war would be long and difficult. However, both states were able to acquire some level of sovereign credit for mobilization purposes. This credit acquisition is surprising because it not only contradicts my theoretical predictions, but I would expect that investors would be particularly risk averse to sovereign lending during this time. The destructiveness of World War I and the calamity of the Great Depression should have been fresh in the minds of sovereign investors.

The rest of the chapter is structured as follows. First, I outline the rational for

the case selection. Next, I present my empirical expectations for the case analysis in regards to sovereign lender behavior. Then I present the case analysis, first from the perspective of Great Britain, then Germany. Finally, I conclude with a discussion of the theoretical and empirical implications of my analysis.

3.1 Case Selection

As noted above, these two cases - Great Britain and Germany before World War II - are deviant cases. A deviant case study "is a research design or case selection technique for the purpose of refining or replacing an existing theory or hypothesis, and thus serves the objective of hypothesis generation" (Levy, 2008, 3). Before outlining the purpose and advantages of the deviant case design, I explain how these cases violate my theoretical predictions.

As I outlined in Chapter 1, I expect that sovereign investors will be wary of lending to states that are likely to find themselves in a major war. Investors will gladly lend to a mobilizing government if that government is unlikely to find itself in an escalated conflict. Given this, I expect investors to cautious of lending to both Germany and Great Britain in the lead up to World War II. Investors should be especially suspicious of Germany given that Germany defaulted on its debt obligations in 1933, was non-democratic, was quickly building military capacity, and was in a high threat environment.

However, I expect that Great Britain to have problems in securing sovereign credit as well. In 1931, Great Britain abandoned the gold standard, and sterling suffered an almost immediate devaluation. In addition, Britain defaulted on its external debt obligations to the United States in 1933.[1] The fact that the currency change and default happened in peacetime - Britain had also abandoned the gold standard in 1914, after the start of World War I - signaled to the markets that Britain

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[1] Britain upheld its domestic debt obligations, though it did convert its domestic loans into lower interest bearing securities (Peden, 2000).

would struggle making repayment given the current value of its debt obligations. In addition, World War I left Britain in a worse position in terms of capital reserves. Britain had lent to many of its allies during the war and these allies decided to default on their loan obligations, which ultimately led Britain to default on its debt to the U.S. (Reinhart and Rogoff, 2008; Peden, 2000; Self, 2006).

In addition to Britain's fiscal troubles, the timing of its mobilization effort should have been discouraging to investors. By 1936, when Britain began to seriously implement a rearmament strategy, Germany had already established a mobilized force. While Britain's rearmament could have theoretically acted as a deterrent against Germany, its tardiness undermined its deterrent qualities. [2]

Given these circumstances, it would be surprising if either government were able to acquire sovereign credit. However, Germany raised 12 billion marks in Mefo bonds (a type of domestic financial security) and was even able to secure a small loan - £750,000 from Great Britain in 1934 (Einzig, 1967). Great Britain raised its first rearmament loan in 1936 for £400 million, and issued war finance loans in every subsequent year (Peden, 2000).

This initial data suggests that these two cases contradict my theoretical predictions and thus provide a deviant case study design. Deviant case studies can help "refine and sharpen existing hypotheses" and can rescue "a theory from potentially damaging evidence" if that evidence, through careful examination, is shown to be wrong (Levy, 2008, 13–14). Deviant cases can also help specify new concepts, variables, or theories related to the causal mechanisms of an existing theory (George and Bennett, 2005, 114).

I selected these two cases based on their extreme values of the key variables. Germany has extreme values in terms of the important independent variable: it

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[2] Ripsman and Levy (2008) argue that Germany's military advantages forced British authorities to follow a policy of appeasement until Britain's mobilization effort could catch up to Germany's rearmament effort (Ripsman and Levy, 2008). However, war began before that military parity occurred.

was very likely to escalate its conflict. While Great Britain's independent variable were not extreme, its dependent variable was extreme. Great Britain borrowed a substantial sum of money for its mobilization. Selecting case studies based on extreme values of independent or dependent variables is a common strategy and is "based on the logic that causality ought to be clearest in cases where variables take on their extreme values" (Levy, 2008, 7).[3]

The cases of Germany and Great Britain in the 1930s are designed to help refine my theory. I intend to explain why the evidence from these two cases do not fit my theory, and then identify scope conditions for my theory based on these explanations.

3.1.1 Empirical Expectations

As noted above, my theoretical expectations were that both Great Britain and Germany would face a wary sovereign credit market. However, initial evidence suggests otherwise, and therefore these cases present a deviant case study design for my theory. To utilize this design type - and to help redefine my theory - I outline the evidence to be examined. I examine each state's new sovereign obligations as well as failed attempts to secure credit. I pay particular attention to credit market prices for each case's sovereign securities to gauge investor attitudes. In addition, I examine the behavior and rhetoric of important actors, such as investors and government leaders. Although financial intermediaries are not as crucial in this time period as compared to the 19th century, statements from investors can provide some perspective from how sovereign lenders as a whole felt about the upcoming war and potential sovereign clients.

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[3] Extreme cases can also be useful when the variables of interest are difficult to operationalize (Gerring, 2001, 217).

3.2 Historical Background

This section provides historical background for the 1930s relevant for both cases. The global economy in the early 1930s was in a severe depression, originating with a credit crisis in the United States, but exacerbated by unstable fiscal and economic situations in Europe. Much of the economic instability in Europe can be attributed to the aftermath of World War I. Most states, regardless of which side of the military outcome they were on, struggled to meet their war finance obligations. Different governments handled these obligations differently, but in general, huge government deficits lead to unstable currencies. Budget deficits also prompted states to push their exports (while limiting imports), which led to more restrictive trade policies. In general, governments were sacrificing long-term stability for short-term gains.

In the late 1920s, economic recovery looked possible in Europe, as credit flowed from the United States to European capitals. However, this credit boon had disastrous effects. Most of the credit was speculative and was not invested in sustainable economic activities. Governments, starved for foreign currency, commandeered much of this credit to finance their budget deficits. As long as the credit flowed in, the European governments had fewer incentives to provide structural improvements to their economies. Subsequently, European governments became overly dependent on American credit. When the credit flow stopped after the American stock market crash in 1929, the American government recalled its debts (at both the government and private levels). As a result, Europe was thrown into a depression. European governments began defaulting on their loan obligations both domestically and externally, and inflation and unemployment became rampant.

These economic conditions laid the political foundation that allowed Mussolini and Hitler to rise to power, which increased the probability of another world war. However, the global depression left states less able and less willing to finance their military defenses. This emboldened Hitler to aggressively rearm and forced policy

choices by the Allies.

3.2.1 Comparison to Austria case

Before moving on to the analysis for each case, I compare the pre-World War II cases and the 19th century Austrian case from the previous chapter. Both eras took place at the end of major wars that transformed the geopolitical structure of the European continent. As such, investors were concerned about another devastating war. As noted in the previous chapter, the Rothschilds and other sovereign investors were concerned that another continental war would depress the price of all sovereign securities, thus devaluing investors' wealth. Fortunately for the Rothschilds, this fear did not come to fruition until World War I.[4]

There are several important differences in these two cases as well. First, governments took a more active role in the operations of their economies in the inter-war period. While the economies in the 19th century enjoyed fewer constraints, the economies in the pre-World War II Europe had more government regulation, with the Soviet Union being an extreme example. Even Great Britain, a bastion of laissez faire economics, employed government resources to restrain inflation. Greater governmental control of the economy can be attributed to changing economic philosophies, such as the growing influence of Marxism and Keynesian economics. World War I also allowed governments to take more control over economic processes to

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[4] An interesting question to emerge from this analysis is whether investors forgot their lessons from history in the pre-World War I era. Throughout the 19th century, there is ample evidence to suggest that the outbreak of a continental war was the biggest fear of the Rothschilds (see Ferguson 1998, 1999). However, the 19th century was characterized by a series of limited interventions and small wars. Even the Crimean and Franco-Prussian wars that involved the great powers were relatively limited affairs. These wars did depress the prices of the participants sovereign securities (as predicted by the Rothschilds), but this price depression was only temporary. Furthermore, each participant eventually repaid its debt responsibilities. The question that emerges then is whether investors fell into a false sense of security when it came to lending for military purposes in the pre-World War I era. Did investors lose their fear of a potential continental war given the nature of limited warfare of the 19th Century? Initial evidence suggests that the Rothschilds in London believed that the First World War would be short (Ferguson, 1999a), but more research is needed to address this question.

manage their precious revenue generating processes during the war.

This latter period also saw a different role for financial intermediaries. During 19th century Europe, the sovereign financial market was dominated by a handful of financial intermediaries, including the Rothschilds and Barings banks. However, the monopolist position of these firms began to erode as the century proceeded. As noted in the earlier chapter, increased competition and changing technologies helped open up the sovereign credit market. In addition, governments began issuing their own debt, cutting the intermediary firms out of their lending transactions. Ferguson (1999a) summarizes the role of intermediaries within the new financial systems:

> [T]he Second World War even more than the First was financed in ways which left little room for the Rothschilds to play their traditional role. The sinews of war had ceased to be flexed by bankers and bondholders; a new Keynesian age was dawning, in which governments would manage economic life more directly, controlling the allocation of scarce factors of production, manipulating the level of aggregate demand and treating money as little more than a convenient unit for national accounting (478).

Besides the changing relationship between government and intermediaries, the disastrous financial consequences of World War I wiped out half of the capital stock from the Rothschilds in the sovereign lending market (Ferguson, 1999a, 454-455).[5] This last point emphasizes an important difference in the two eras. After the Napoleonic Wars, the Rothschilds found themselves with an advantageous position in the lending market and a surplus of cash. As a result, the Rothschilds were more than willing to lend. Conversely, World War I, and the subsequent economic depression, wiped out the wealth of many sovereign lenders. Thus, investors were less than

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[5] The emergence of the American dollar as a global currency also weakened the position of European firms like the Rothschilds and gave advantages to American financial firms, such as J.P. Morgan (Ferguson, 1999a). This increased the competitiveness of the sovereign lending market after World War I.

willing to lend again. The United States, the new major source of sovereign credit, actually restricted lending to any state in default in the 1930s, which accounted for most states in Europe.[6] Great Britain also restricted the quantity of foreign issues on the sovereign lending market after World War I to encourage savings and domestic borrowing (Ziegler, 1988). Therefore, many states in Europe in the 1930s had little option to attract foreign sovereign credit.

By this time, more states had developed their own domestic sources of credit. While the capital potential in Berlin or Frankfurt did not rival London, or even Paris, it became a major source of revenue, especially for both world wars. Because of these more developed domestic sources of credit, states could rely less on traditional loans from intermediaries, and rely on domestic lending from its citizens. While this provided governments more fiscal flexibility, domestic lending, without careful restraint and moderation, often has inflationary consequences.

3.3   Case I - Great Britain

The economic consequences of World War I were no less kind to the winners in comparison to the losers. Ferguson (1999b) asks us to:

> [i]magine a country which, as a result of the First World War, effectively lost 22 per cent of its national territory, incurred debts equivalent to 136 per cent of gross national product, a fifth of it owned to foreign powers, saw inflation and then unemployment rise to levels not seen for more than a century; and experienced an equally unprecedented wave of labour unrest. Imagine a country whose newly democratic political system produced a system of coalition government in which party deals behind closed doors, rather than elections, determined who governed the

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[6] Only Finland maintained their credit obligations to the U.S. after World War I (Reinhart and Rogoff, 2008).

country. Imagine a country in which the poverty of returning soldiers and their families contrasted grotesquely with the conspicuous consumption of a hedonistic and decadent elite (395).

This description refers to Britain.[7] While victory is often assumed to decrease war's economic consequences (Slantchev, 2012; Flandreau and Flores, 2012), Britain's high employment and high inflation after the war suggests otherwise. Nonetheless, as was characteristic of the government for the previous three centuries, Britain initially remained committed to repaying its debt obligations. The government promoted deflation - which actually increased the value of debt - in order to return the sterling to a state a normalcy. These efforts were initially successful, and the sterling eventually returned to the gold standard in 1925 (Ferguson, 1999a, 2001; Peden, 2000).

While Britain's commitment to repay its domestic debt never really wavered, its commitment to its external obligations to the United States was under constant flux. Although Britain had long-term interests to repay its debt, it favored a policy of debt amnesty. Britain had lobbied the United States to forgive its war debts since the end of the war to help facilitate economic recovery in Europe (Self, 2006). During World War I, the United States lent to Britain, who subsequently used that credit to lend to the other Allies. When the other Allies began defaulting on their obligations to Britain, Britain was caught holding the entire Allied bill.

British lobbying intensified in the early 1930s when the global economy plummeted. The global depression prompted President Hoover to offer a temporary reprieve. However, when the Hoover Moratorium expired in 1932, Germany stopped reparations and debt payments (Reinhart and Rogoff, 2008). Subsequently, the European Allies defaulted on their debt obligations to the United States and Britain.

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[7] The lost territory that Ferguson (1999b, 396) describes is Southern Ireland.

France defaulted unconditionally, while Britain attempted to negotiate reduced payments. Before 1931, Britain made annual payments of $161 million in gold. After the moratorium, Britain made a number of token payments in silver while in negotiations with the Americans. Britain sought to reduce payments to $20 million. The Americans countered by demanding $60 million (Peden, 2000). Britain's main negotiator Frederick Leith-Ross admitted that Britain's "objections were fundamentally political" and that $60 million was "within our capacity to pay" (Leith-Ross, 1968, 174). However, $60 million was politically unacceptable to Britain, especially since other European countries defaulted on their debt obligations to Britain. Without an agreement, Britain defaulted on its external war debts, a political decision that would have ramifications for rearmament in the late 1930s. As a result of Britain's failure to fulfill its debt obligations, it was included in the provisions of the U.S. Johnson Act of 1934, which prohibited any inter-governmental lending to states in default (Peden, 2000).

Britain's decision to default corresponded to its recognition of growing military threats from both Germany and Japan. At the end of the First World War, the British government instituted a Ten Year Rule, which was an assumption that there would be no major war in the next ten years. This rule acted as a guideline for military spending and was reaffirmed several times in the 1920s. It was revoked in 1932 in response to Japanese imperialism in the Pacific, although military spending did not significantly increase until 1936 (Shay, 1977).

Britain's initial rearmament delay can be attributed to the slow economic recovery in Britain, which led the Treasury to oppose any ambitious rearmament program. Another issue was the political paralysis within the British Cabinet. Leaders could not decide on whether Japan or Germany posed a greater threat, and when these threats would be fully realized. The paralysis was a function of the election in 1935 and the general support of pacifism within the British populace (Shay, 1977, 32-35). Germany's remilitarization of the Rhineland in March 1936 finally pushed the

British government to undertake a relatively more ambitious rearmament policy, but one that would prove ineffective in deterring Hitler.

In 1936, the government agreed to continue the expansion of the air force and modernization of the navy. However, the expansion of the army was delayed because it was assumed that the French army would be sufficient for military strategy (Newton, 1996). In sum, rearmament only garnered sufficient support in the government because it focused on defensive measures (radar development and fighter plans) and not offensive capacities (bombers and army expansion) (Newton, 1996). This armament strategy was not without consequences, as it undermined Chamberlain's ability to deter Germany's eastern expansion in the late 1930s.[8] Chamberlain's rearmament policy, directed both as a Chancellor of the Exchequer and Prime Minister focused on home defense to limit total mobilization. However, this left Britain impotent to effectively negotiate with Germany over Czechoslovakia. The chiefs of staff wrote to Chamberlain in 1938: "No pressure that we and our possible Allies can bring to bear, either by sea, or land or in the air, could prevent Germany from invading and overrunning Bohemia and from inflicting a decisive defeat on the Czechoslovak Army" (quoted in Newton 1996, 80). The chiefs went on to warn that if Britain did intervene, Japan and Italy would likely join Germany, ensuring that only a long struggle would lead to success.

In April of 1939, after the fall of Prague, Chamberlain announced that Britain was doubling its Territorial Army (170,000 to 350,000) (Shay, 1977, 271). In addition, a ministry of supply was established, as well as compulsory military service (Newton, 1996). However, these actions, though dramatic, had little immediate impact. The ministry - in charge of war time economy - was not organized until

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[8] There are three possible explanations for Britain armament strategy. First, the conventional wisdom suggests that Chamberlain believed that an appeasement strategy could satiate Hitler's demands, and thus avoid war. Full rearmament would have undermined this policy. Second, because of Britain's initial slow reaction to the German threat, it needed more time to mobilize (Ripsman and Levy, 2008). Finally, Britain was confident that it could defeat an German attempt to invade Britain and Germany would eventually suffer an economic collapse (Newton, 1996).

July 1939 and only had jurisdiction over the army, not the air force or navy. In addition, conscription was limited to ages 18-20 for only six months (Shay, 1977, 272-273). As a result, Britain still did not have an offensive fighting force to support Chamberlain's threats.

Given the residual effects of the depression and the prevailing economic orthodoxy that dominated the government, Britain had difficulty financing its rearmament from 1936 to 1939. While government borrowing during peace times was loathed within the Treasury, Bank of England, and the financial community, it was considered the lesser of evils in comparison to taxes or inflation.[9]

As I have argued, investors prefer a mobilized peace or limited conflict to unlimited war. Therefore, investors prefer not to lend to states that are likely to find themselves in escalating crises. Britain's defensive position and initial reluctance to invest in offensive capabilities may have actually increased the probability of another war in Europe. Germany did not want another continental war with Britain involved, and Britain's defensive mobilization did not send a strong signal that Britain was resolved to intervene in continental affairs yet again.

If Britain followed a more aggressive offensive mobilization strategy, it may have been able to deter Hitler from starting World War II. However, this line of thinking is making two assumptions. First, it assumes that investors are able to infer the likelihood of war given different mobilization strategies in different security environments. Second, it assumes that Britain (or any other state) could actually deter Hitler. From an individual perspective, a deterrence strategy may have been futile with respect to Germany in the 1930s. As I will discuss in more detail later, Germany's economy was structured in such a way that by 1939 either Germany went to war, or the economy would have collapsed given an excess of production. The increased demand from war actually provided a temporary equilibrium for Germany

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[9] Although one the objections of borrowing is that it could be inflationary if the Bank of England had to act of the lender of last resort (Peden, 2000).

and allowed it to conquer territories to acquire more resources to fuel its production (Tooze, 2006).

From the historical evidence, it appears that policy makers and potential sovereign lenders had mixed assessments about the likelihood of war. There is a general consensus that some policymakers, most notably Neville Chamberlain, believed that war could be avoided if Germany's grievances were met.[10] Treasury officials largely supported the appeasement policy, although the treasury appeared to favor higher levels of rearmament than Chamberlain (Peden, 2000, 297-301). The treasury's support of appeasement can be seen as a function of three factors. First, war with Germany was expected to have disastrous economic results, as argued by Kirshner (2007, 28-29).[11] Second, the treasury showed loyalty to Chamberlain given his experience as the Chancellor of the Exchequer (Peden, 2000, Ch. 6; Caputi, 2000, 128). Finally, treasury officials were in constant contact with their German counter-part, president of the Reichsbank, Hjalmar Schacht. Schacht was seen as a moderating force in the Nazi regime, and British treasury official overestimated the influence that Schacht had on Hitler (Shay, 1977).

However, there are segments within the treasury that had a more pessimistic assessment of war. In 1935, Warren Fisher, permanent secretary of the treasury, came across an intelligence estimate that reported that the German state borrowing considerable amounts of mont for accelerated rearmament (Peden, 1979, 73). Fisher wrote on behalf of other treasury officials to the soon-to-be Prime Minister, Stanley Baldwin that "[w]e are...convinced (a) of the reality of the danger of war, (b) of the profound ignorance of our own people, (c) of the degree to which they have been misled by so-called pacifist propaganda" (quoted in Peden 1979, 70). Fisher hoped

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[10] See Ripsman and Levy (2008) for an alternative explanation. The authors argue that supporters of the appeasement policy were not motivated by a low likelihood of war, but rather better-later-than-now logic, given Britain military disadvantages in the 1930s. In other words, appeasement was a "buying time" strategy to allow Britain's mobilization to catch up to Germany.

[11] It should be noted that the treasury's support for rearmament as an accompanying policy to appeasement does not fit with Kirshner's theoretical predictions.

that the Baldwin government would be more outspoken about the German threat because Fisher "wanted the taxpayer psychologically prepared to meet the coming German challenge" (Peden, 1979, 71).

The British government chose not to share its full intelligence assessment of the German threat with the public or sovereign investors. As a result, the treasury found itself in the awkward position of having to convince investors to lend them money for military purposes even though the full extent of the German threat was unknown to the investors. Unlike the 19th century, there were no investors with informational advantages in the market. Consequently, investors' assessment of an upcoming war was ambiguous.[12] In September of 1936, Thomas Lamont, chairman of J.P. Morgan, remarked that although "[t]he American public has...gotten the idea that Europe is about to plunge into the midst of another general war...I may be too much of an optimist, but I not share that view" (Chernow, 1990, 400).[13] At this point, Lamont and other financiers were more concerned with the Soviet Union, preferring "the fascists who make war to the communists who seek to overthrow our governments (Chernow, 1990, 403).[14]

However, not all of finance was supportive as the appeasement policy. While the *Financial Times* supported Chamberlain's diplomacy in Munich, the *Financial News* and the *Economist* were both critical of appeasement (Ferguson, 2008b, 458). The *Economist* hoped that appeasement would work, but predicted that "any agreement with the ambitious dictator... whatever its apparent terms, will turn out to be bad

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[12] The Rothschilds were the earliest financiers to realize the threat of Hitler, but were less concerned about financing war and more concerned about facilitating the refugee migration of German Jews. The Rothschilds still residing in Germany and Austria were obvious targets of the Nazi regime, and therefore, much of the London Rothschilds pre-war actions were directed at getting their relatives and other Jews safely out of harms way (Ferguson, 1999a).

[13] Lamont had a similar assessment of an American war with Japan. Three weeks before the attack on Pearl Harbor he stated that "I may be 100 percent mistaken, but I am really not worries at all about the Far East at the moment" (Chernow, 1990, 466).

[14] Lamont had a close relationship with Mussolini, and attempted to better the dictator's image in the American public to lay the foundation for a possible loan. (Chernow, 1990, 404-407).

and dangerous...as it rewards aggression" (Economist, 1938b, 1).[15] The journal went on to argue that contrary to the experience of World War I, "few people in the City[16] did not envisage the strong possibility of an armed conflict in which Great Britain would be heavily involved. This being so, the outbreak of war would not have taken the financial markets by surprise" (Economist, 1938a, 23). Ferguson (2008b) finds support for this assertion in the financial markets. Currency markets and stocks of defense industries began to react the risks of war well before the Munich crisis. Given the little reaction in the market to Munich, the Czech crisis, and the eventual outbreak of war, Ferguson (2008b, 462) argues that investors "priced war in" the markets ahead of time.

The varied assessments of the likelihood of unlimited war clouds my empirical expectations in terms of Britain's acquisition of credit. If financiers expected an unlimited war, as the *Economist* suggests, then British lending should have been limited. However, if appeasement was expected to prevail, then lending should have had less resistance. As the evidence suggests in the next sections, the lending markets behavior was somewhat ambiguous.

Throughout the duration of its rearmament and World War II, Great Britain had financed its mobilization effort through a mixed fiscal strategy. Half of the war expenditures were paid with tax revenue, while the remaining balance was roughly evenly split between sovereign loans and new currency (i.e. printed money) (Ferguson, 2001). Given the demand for new revenue, it is impressive that Britain was able to finance such a large portion of its debt and did not have to rely on inflation as much as other war participants. However, it also be surprising that Britain was able to obtain as much credit as it did given the theoretical predictions discussed earlier. The next sections examines why investors were willing to lend to

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[15] This evidence directly contradicts Kirshner's (2007, 28) assertion that finance was overwhelming in support of appeasement.

[16] "The City" is a common reference to London's financial community.

Britain in the mid 1930s, when Britain began its policy of rearmament in 1936.

3.3.1   Britain's International Borrowing

Given the fears of inflation, the British looked to Americans for foreign credit. This is unusual for the British who normally can self-finance themselves, but consistent with this financing strategy of World War I (Ferguson, 1999b). Given the need for revenue for its mobilization effort, the British sought new lines of credit from American financiers. However, when Britain defaulted on its inter-governmental debt obligations to the United States, it effectively shut itself out of external government loans. The Johnson Act prohibited the American government from lending to states in default. Because of this, Britain remained in constant contact with the American government to settle the debt dispute and to open up a new line of credit. Since 1919 there were several proposals discussed in Congress and State Department regarding debt forgiveness in exchange for territory, including Nova Scotia, Newfoundland, or islands in the Caribbean. The State Department also explored the possibility of annexing British Guiana to provide a home for Jewish refugees (Self, 2006). However, Britain was reluctant to forgo any of its territory, while President Roosevelt was reluctant to take on the American Congress on this issue (Self, 2006). Eventually, credit would come from the American government, but not until the start of the war. The Lend-Lease Act of 1940 provided Britain with much needed hard currency, but it also forced Britain to liquidate all of its foreign direct investments within the U.S. at a discount (Peden, 2000).

3.3.2   Britain's Domestic Borrowing

Because of the lack of external credit supply, most of the British lending took place domestically. There was some discussion within the British government to pursue a more covert financing strategy like Germany to hide the deficit spending policies from

the public (Shay, 1977, 144). However, the government, influenced by objections from the treasury, decided on a more transparent route.

Against advisement from treasury officials and financiers, the first defense loan in 1936 was set at a three per cent interest rate. There was a general fear that this low rate would discourage investors from lending. This turned out to be half true. Investors were more receptive to lend for military purposes than government officials had thought (Shay, 1977). One reason for this is the investors were relieved that the government did not borrow to finance stop-gap economic measures (i.e. employment insurance) and instead invested in military capacity that may help spur domestic demand (Peden, 1979).

However, investors were not excessively optimistic, as the £400 million loan - issued in annual installments of £80 million - was only half subscribed in 1936 (Shay, 1977). The Bank of England, in its role as the government's banker, acted as a residual buyer for all unsubscribed issues. As with other under-subscribed domestic lending, this had inflationary effects, given that the Bank simply printed the money the government was not able to borrow (Shay, 1977). However, the government wanted to send a signal that three percent was going to be the standard rate during the upcoming war, just as it was for World War I (Peden, 2000). Eventually investors would succumb to the need to invest, and participation increased in future subscriptions.

Many within the government and the Bank of England believed that additional borrowing should be coupled with additional taxes. Indeed, Neville Chamberlain, then Chancellor of the Exchequer (1931 - 1937), explored the possibility of a profit tax on companies in 1936, but instead recommended a tea tax. In 1938, when Chamberlain was Prime Minister, a more significant tax hike took effect, focusing on higher income taxes.

There were three difficulties in raising taxes. First, the British government had just began to emerge from its depression in the mid-1930s, and the government was

worried that taxes would hamper economic growth. Second, the most effective tax hikes would have been on wealthiest British citizens, which represented the core constituency of the British Conservative Party. Narizny (2003) argues that conservative parties have difficulty mobilizing domestic resources for military purposes because effective mobilization requires taxation of the wealthiest segments of society.[17] Finally, the British government actually collected a fiscal surplus in 1938, which made it politically awkward for leaders to ask constituents for additional taxes (Shay, 1977).

Treasury officials noted that after the *Anschluss* and Munich crises, foreign investments (mostly from Americans) began to exit Britain for other countries that were less likely to enter the war (Shay, 1977). This "foreign efflux" threatened Britain gold reserves and motivated domestic investors to look for safer offshore investments. From March 1938 to June 1939, £300 million in gold (about 40 per cent of its holdings) exited the country (Shay, 1977; Ferguson, 2008b). Even after the government implemented strict currency exchange policies, the gold exodus continued. Investors were not only worried about an impending war, but also the eventual capital controls that would be implemented once the war began (Shay, 1977). The gold exodus was only exacerbated by Britain's trade deficits in the late 1930s (Mitchell, 1975) and the reluctance of Americans to extend foreign loans to defaulters (Self, 2006).

The gold exodus corresponded with new budgetary pressures as mobilization efforts were finally implemented in 1938 and 1939 to support the army. The government was concerned that another loan would shake the confidence of the financial

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[17] While Narizny's analysis is provocative, there are two limitations. First, he only considers governments' tax policy and does not explore the dynamics of sovereign credit. Second, research of the pre-WWII shows that opposition parties had a constraining effect on higher taxes (Shay, 1977), contradicting the counterfactual that the Labour party would have favored higher taxes to finance the mobilization effort. In fact, Labour voted against efforts to rearm Britain in 1936 and 1937. In 1938, after the *Anschluss*, the Labour Party switched positions on rearmament, and echoed Churchill's pleas for a greater rearmament effort. Shay (1977) asserts that Labour's change was a function of the Party's leadership awareness that fascism posed a threat to organized labor.

community, and signal to Germany that Britain could not sustain its mobilization effort. In the early summer of 1939, the treasury was still reluctant to increase revenue for military expenditures. Officials had calculated the national savings rate at £450 million (Shay, 1977), while the government was borrowing £400 million a year. Maynard Keynes, an advisor to the treasury, argued that the savings rate was irrelevant to Britain's borrowing potential, given that the extra production due to war lending, would increase savings, thus providing a greater capacity to borrow domestically. However, the orthodoxy of the treasury won out until the war became inevitable, limiting borrowing limits to the domestic savings levels (Newton, 1996; Shay, 1977).

As the summer of 1939 progressed, the imminence of war began to sap the dissenting influence from the treasury, and with the Bank of England's blessing, the British government announced an additional £400 million loan in 1939. The government, anticipating blowback because of the inflationary consequences of the loan, was surprised that the financial community "accepted the borrowing prospects with surprising equinamity [sic]" (quoting Richard Hopkins, treasury official, in Shay 1977, 245). Shay (1977) argues that that financial community's calmness was more in response to the lack of a corresponding income tax increase than the soundness of a new loan. New taxes were part of the budget, but these focused on estates, cars, tobacco, and sugar.

However, an alternative explanation for the market's favorable response to the new loans is that the markets did not agree with Chamberlain's assessment that war would have disastrous economic consequences for Britain debt securities. The *Economist* argued that "[t]he idea that the outbreak of a major war must necessarily be accompanied by a major financial panic is not merely fallacious but dangerous" (Economist, 1938a). Ferguson (2008a) shows that British bonds and equities performed quite well during the war, even better than comparable American bonds and equities over the same time period. This evidence suggests that investors who

remained confident in Britain's ability to repay its debt were rewarded. The next section examines several explanations of why investors had this confidence before the war.

3.3.3 Discussion

Similar to its effort for World War I, Britain focused its war borrowing on medium and long term debt securities. Too much short-term debt can create inflationary pressures (enticing governments to print money to meet short-term requirements). Any additional liquidity from the added money supply in the market could be soaked up with longer-term debt.[18] This strategy allowed the British to maintain relative financial and economic stability throughout its mobilization.

Why did investors provide credit to Britain during its mobilization? I offer three explanations that are not consistent with the argument presented in Chapter 1, but do not necessarily discard my theory either. My theory of sovereign lending for conflict is built on probabilistic premises. Therefore, outliers are expected without necessarily undermining the foundation of the theory. As a result, a case analysis of these outliers is useful to reexamine my theory and offer possible amendments.

One possible explanation examines the role of patriotism during the mobilization stage of war. The British government may have been able to entice citizens to lend to the state as part of their patriotic duty. It was common during this time for posters to advertise appeals from the Royal Family to help finance the war.

The government was able to market its bonds, exploiting its citizens' patriotic duty. This is an attractive explanation given that the war bond marketing campaigns are a salient component of government finance. In addition, there is evidence that advertising is effective in separating people from their earned income. However, there

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[18] After World War I, Britain made a concerted effort to restructure all short-term debt into long term debt. This helped bring stability to the capital and credit markets. After World War II, the government did not pursue the same strategy, and as a result, the added liquidity in the market caused financial instability (Ferguson, 2001).

is no systematic evidence that demonstrates that war bond campaigns are effective. Essentially this is an empirical question, and one worthy of future research.

Evidence from this case suggests that bond appeals were not a primary factor in explaining why investors lent to Britain. To begin, Britain felt compelled to intervene in the capital market to restrict alternative lending opportunities with the Capital Issues Committee. Second, many countries during World War II used propaganda to encourage bond investment - United States, France, Italy, Japan, and Germany. However, there is variance in these states' ability to access credit during the war. There is no evidence that Britain or the United States, both of which enjoyed inexpensive access to domestic credit, had more effective bond campaigns than other countries.

The next explanation for British domestic borrowing success is that investors were confident that the government would repay the debt regardless of whether there was a war or not, and regardless of the outcome of the potential war. In Chapter 1, I outline the differences of reputation and institutional explanations. In sum, reputation theorists would argue that Britain almost always repays its debt because it values future access to inexpensive credit. The British had a long history of debt repayment even under difficult circumstances. Institutional proponents would argue that Britain is constrained by its democratic institutions, and is therefore more likely to repay. This dissertation is largely agnostic about state motivations to repay, but both explanations suggest that Britain was an unlikely defaulter. In addition, Britain was a rich country, with an independent central bank, and a sophisticated financial market that made sovereign securities much more enticing to investors.

However, there are several reasons to discount this explanation. First, while most of Britain's debt history was flawless, it did convert its domestic debt in 1935 to a lower interest rate, effectively undermining the value of debt securities. In addition, as discussed above, Britain defaulted on its external debt obligations because of domestic political pressures.

Second, investors not only have to worry about repayment, but whether repayment will maintain its expected value. For example, in the aftermath of World War I, France and Germany were only able to repay their debt through devalued currencies. France officially devalued the franc, while Germany simply printed more money to pay its debt.[19] Investors did have to worry about the value of sterling, given that Great Britain abandoned the gold standard in 1931.

Finally, while the British government was dedicated to the repayment, that did not guarantee repayment. If Britain lost a war to Germany, and Germany conquered Britain, it is unlikely that Germany would have honored British debt requirements. Therefore, investors did have to worry about default, not by choice, but by force.

A more likely explanation for why domestic investors lent to the British government is the lack of alternatives. The government agency, the Capital Issues Committee, oversaw the issuance of new securities in the capital market, and limited any issuance that did not directly help Britain's mobilization effort (Peden, 2000, 314).[20] As a result, investors were constrained in where they could invest. Finance Secretary Frederick Phillips was initially skeptical of the success of this plan arguing that "if the saver prefers to give up saving than accept a low rate of interest we can do nothing" (quoted in Peden 2000, 315). However, the government could do something. First, the government purposely kept the British sterling undervalued so that it encouraged savers not to hold their money.[21] Second, rationing mandated by the government restricted consumption, leaving savers little option for their available currency. In sum, the British government's intervention in the domestic economy left domestic lenders few investment options, except sovereign bonds.

Initially this case appeared to contradict my theory. Investors are lending to a

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[19] As Ferguson (2001) notes, these financial transaction are tantamount to default, and thus should be conceptualized as such.

[20] The United States also had a Capital Issues Committee during both world wars. Today, the agency is known as the Securities Exchange Commission.

[21] An undervalued currency also helps promote exports.

state that is likely to find itself involved in total war. However, the case does reveal some reluctance from investors, reluctance that Britain did not usually experience. First, Britain was not able obtain external credit until the war was underway, and even then, this credit was predicated on politics rather than financial soundness (Self, 2006). Private American investors were wary of lending to a state about to go to war. American investors were in a much different situation than British investors. American investors (at least until 1942) had options to invest in all sovereign securities (including American securities) while British investors were limited by the Capital Issues Committee.

The variance in access of credit in the domestic and international markets illustrates an important point. As noted in the beginning of this chapter, governments in the 20th century were much more involved in their domestic economies compared to the 19th century. These interventions were sophisticated in the sense that they could limit the viable options of a sovereign lender. Chernow (1990) observes that by the eve of World War II:

> government resources eclipsed those of private banking houses...[B]anks were no longer large enough to bankroll wars, as Barings, Rothschilds, and Morgans had done in their heyday. With their larger budgets, central banks, and taxing powers, the modern nation-states no longer needed to rely on the good offices of private bankers (442).

In sum, Britain was able to acquire credit in the lead-up to World War II, but this credit acquisition followed a distinctly different process than the credit acquisition in the 19th century described in Chapter 2.

In conclusion, the success of Britain's borrowing for World War II suggests that government's financial sophistication and economic control may increase its borrowing capacity. The British government was able to encourage lending by eliminating other possible uses for domestic savings. This suggests that domestic and external

debt should conceptually and empirically be considered differently. The British government in the 1930s had more opportunities to distort domestic lending markets. This is especially true given that financial intermediaries such as the Rothschilds were no longer needed to carry out financial transactions for governments. The evidence for this case suggests that if inferences about sovereign lenders' preferences can be made from changes in the markets, external markets reactions provide a more valid measure.

3.4   Case II - Germany

At the end of World War I, Germany was saddled with large amount of domestic debt. This fiscal hardship was compounded by lost sovereign territory to France, Belgium, Denmark, Poland, and Czechoslovakia and forfeited colonies as a result of the Versailles treaty. Germany also faced the prospect of war reparations to the Allies. To discourage reparations, Germany followed an economic policy to *incite* economic instability (Ferguson, 1999b, 411). For example, the government - in an effort to increase budget deficits - imposed a new fiscal system where taxpayers could defer payment. When reparations were levied, and Germany was forced to borrow domestically to finance their obligations to the Allies, the government encouraged inflation to devalue its domestic debt (Ferguson, 1999b).

When reparations were levied in 1921, Germany had difficulty reversing its economic course.[22] Publicly, German leaders were arguing that a non-inflationary policy would expose the government to revolutionary pressures. However, this appears to be wrong on two counts. First, Germany's best years of growth were associated with currency stability (Tooze, 2001; Ferguson, 1999b). Second, Hitler and the rise of National Socialism was buttressed by the promise to tame inflation: "The other

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[22] The level of reparations was lowered because of Germany's economic woes and because of warnings from John Maynard Keynes that reparations would strain Germany's fiscal resources (Ferguson, 1999b).

parties may have come to terms with the thievery of the inflation...[but] National Socialism will bring the thieves and traitors to justice" (Ferguson, 1999b, 428).

Although it had less domestic debt responsibility than Britain after the war, Germany had more difficulty repaying its debt. In order to repay its debt obligations after World War I, Germany would have been forced to pursue a similar deflationary policy as Britain. This would have increased the level of debt in Germany, and possibly increased unemployment. German leaders framed the subsequent depreciation policy - which was a de facto default policy - in terms of "national interest." (Ferguson 1998, 408).

Slantchev (2012) argues that Germany's default was a function of its defeat in war. However, there are several reasons why this claim is unfounded. While repayment would have been difficult for Germany, it was by no means impossible. Examination of other World War I participants shows that Germany's debt ratio was less than Great Britain's and was comparable to France after the Franco-Prussian war (Ferguson, 1999b).[23] While Britain was on the right side of victory, this did not preclude it from economic difficulties, including inflation and high unemployment. While Britain would end up partially defaulting on its external debt obligations, it followed a draconian deflationary policy in the decade following the war in an attempt to honor all of its debts. Conversely, Germany decided to follow an inflationary policy to devalue its debt.

Germany's inflationary policies, coupled with the withdrawal of American financial capital in 1929 provided the political foundation for the rise of the Nazi party. Appealing to German nationalism, Hitler and the Nazi party promised a return of German influence in Europe. Hitler also wanted to institute an autarkic economic system that necessitated territorial expansion to meet raw material demands. As a result, German underwent an ambitious rearmament plan in the early 1930s.

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[23] Overtime, Britain's debt ratio actually increased because of deflation.

Adolf Hitler looked to consolidate his rise to power under an aggressive military mobilization strategy. This strategy accomplished two benefits for Germany. First, German rearmament in the 1930s quickly re-established Germany as a military power on the European continent. The stipulations of the Versailles Treaty forbid Germany's rearmament, which ensured that Germany's military would remain depleted throughout the 1920s. Hitler ignored these treaty stipulations, and went ahead with Germany's rearmament plan.

Second, Germany's rearmament helped alleviate the mass unemployment problem in German by increasing production demands. The depression hit Germany hard at the end of the 1920s. Germany had become dependent on foreign capital (in the form of both sovereign credit and foreign direct investment), particularly from the United States. Not only did the capital flow from the United States stop, but the United States began to recall its loans from Germany and other European states. As a result, Germany's economy halted, and unemployment reached record levels (30 per cent in 1932) (Tooze, 2006). Germany's rearmament increased demand for industrial production, which helped increase the demand for labor.

The rearmament also increased the demand for production resources. In order to purchase these resources, Germany needed credible currency, which was in short supply in the 1930s. Unable to secure sufficient foreign loans to help finance these purchases, Germany began to horde foreign currency. In addition, the Reichsbank - Germany's central bank - instituted a number of creative accounting practices to extract savings from the domestic populace.

While Britain followed a well-balanced financing strategy for its military mobilization in the 1930s, Germany struggled to do the same. Germany did not have the precise and transparent accounting system that Britain had. In addition, Germany choose to rely much more on inflationary means to finance their debt. However, Germany was able to secure some domestic credit. Again, this begs the question of

why investors would be willing to lend to Germany. As opposed to Britain's defensive mobilization effort, Germany mobilization had offensive overtones. It appeared likely that Germany was interested in an escalated conflict, one that would threaten the economic stability of not only Germany, but Europe as a whole.

While Germany did receive sovereign credit, I will demonstrate that its credit acquisition resembled Britain's credit acquisition with its reliance on government intervention in the credit markets. Germany was not able to obtain international sovereign credit in the 1930s, even before war appeared likely. In addition, the domestic credit that Germany obtained was only obtainable through coercion facilitated by the structure of the command economy. The rest of the analysis will detail German borrowing activities in the 1930s.

3.4.1   Germany's International Borrowing

The only evidence of international borrowing from Germany is a small loan - £750,000 from the Bank of England to the Reichsbank that was designed to ensure that Germany did not seize British foreign direct investment (Einzig, 1967, 45).[24] There is no other evidence that Nazi Germany was able to acquire any external credit for its rearmament efforts in the 1930s.[25] Weitz (1997) notes that Germany tried to organize an international loan in the summer of 1934, but provides no detail as to its success.[26] Given that this attempt was concurrent with Germany's announcement that it was suspending interest payments on all foreign debt (both sovereign and private), it is unlikely that an external loan would have been successful.

Its inability to acquire foreign credit prompted the government to start to horde

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[24] Einzig provides no citation, so this loan is not corroborated by other sources.

[25] See the Appendix on the Standstill Agreement, which was an agreement between the central banks of Germany and Britain to essentially freeze British assets in Germany. The initial agreement in 1931 was also accompanied by loan from Britain to Germany to keep the Reichsbank afloat.

[26] Weitz cites a New York Times article from June 16, 1934, but there is no mention of a new German loan in that day's paper.

foreign currency. During the 1936 Olympics, the German's government's pursuit of foreign currency from foreign visitors was described as a "mania" (Weitz, 1997, 187). In addition, it became illegal - by punishment of death - to settle any private foreign debt directly. All foreign debts had to be settled through the Reichsbank. Private investors in Germany paid the bank in foreign currency or gold, and then the bank paid the foreign creditors in German marks.

However, these measures were unsustainable, and by January 1939, gold and foreign exchange were almost non-existent in Germany (Tooze, 2006, 301). However, "no serious constraints were placed on rearmament by a shortage of finance" (Overy, 2008, 55). The German government simply looked to territorial expansion to help meet its production needs.

Given my theory, Germany external credit limitations was expected. The German government was able to access domestic sources of credit. However, even this credit acquisition had its limitations, as the German government was forced to follow a more coercive borrowing strategy.

3.4.2 Germany's Domestic Borrowing

Given its difficulty in securing external sovereign credit, Germany had to rely on domestic lending. Germany's domestic lending during its 1930s rearmament can be characterized as two parallel tracks. On the first track, the government was transparent about its borrowing, floating government loans on the open domestic financial market. The second track was nothing more than forced, secret borrowing, where the government-extracted citizens' savings from private accounts without citizens' even realizing this was the case.

Even on the transparent borrowing tract, the German government introduced a number of policies that funneled domestic capital to the government. In December 1934, the government instituted a law, *Anleihestockgesetz*, that restricted company

dividends, in an attempt to make government bonds a more attractive investment.[27] In 1937, the Reichsbank oversaw a conversion operation, which converted existing six per cent loans into new five per cent loans. While the conversion was not mandatory, the old six per cent loans would not be tradable by law. (James, 2004). The government also encouraged high savings rates to give government access to large liquid assets. People would put their money in banks, without realizing that banks were compelled to transfer their deposits to the government (Overy, 1994, 272-273).

There is evidence, in support my theoretical expectations, that domestic lenders were wary of government lending. As the 1930s progressed, private banks, including the prominent Deutsche Bank had difficulty placing government bonds. In 1935, the bank sold 24.2 per cent of its government bonds. In 1937, it only sold 19.33 per cent, and the first government bond in 1938 sold 21.0 per cent (James, 2004). As James (2004, 31) notes, the bank had an easier time selling private loans than government loans at this time. However, when the German government floated another domestic bond subscription in 1938 after the Munich conference, it actually oversubscribed. The recent events in Europe led German investors to temporarily believe that peace was possible. However, this optimism was short lived, and the subsequent bond issue later in 1938 was a complete failure (James, 2004, 31). In December 1938, the Reichsbank wrote to the Finance Minister that " [w]e too are of the opinion that the capital market can for the moment no longer accommodate bond issues of this kind" (James, 2004, 31).

In order to meet the production demands for raw materials, the Nazi government had to increase its capital accumulation from domestic sources. However, given the risks of investment because of the growing likelihood of war, German citizens were no more keen to lend to the Nazi government than foreign lenders. Therefore, the German government began to extract the much-needed capital. Hjalmar Schacht,

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[27] The Nazi government did not exhibit complete control over the financial system. Officials at the Deutsche Bank undertook securities conversions that actually depleted the government's gold reserves (James, 2004, 184).

president of the Reichsbank and finance minister from 1933 to 1939, presided over the bulk of Germany's financing efforts. Because of Schacht's maneuverings, Germany was able to finance its ambitious mobilization efforts through smoke and mirrors, given that Germany lacked real capital accumulation. When an American suggested that Schacht work in New York, where the real banking action existed, Schacht quipped, "No. Come to Berlin. We have no money at all. That's real banking" (Weitz, 1997, 207).

Schacht's main financial innovation for the German rearmament was the Mefo bills. Mefo was a front company that carried out transactions between the government and German armament companies (Krupp, Siemens, Gutehoffnungshutte and Rheinmetall). The Mefo bills were redeemable at the Reichsbank, but only after period of delay (normally 2 to 6 months) and redeemed with newly printed money (Abelshuser, 1998; Weitz, 1997). This accounting practice had inflationary implications. However, this system kept armament transactions hidden and helped mitigate some inflationary pressures since the larger public was not aware of these transactions.

The Reichsbank also relied on Treasury bills (usually 6 months), which were more open and transparent than the Mefo bills, but were still inflationary in nature. Any Treasury bill that was redeemed was usually paid with newly printed money or with newly acquired domestic credit. These inflationary measures essentially wiped out the value of the treasury bills, and alleviated the government from its debt requirements (Overy, 1994).

With inflation on the rise, citizens were reluctant to lend to the state, especially since inflation was expected to rise even higher with a start of a war. In response, the Nazi government continued to exert additional control over the domestic economy. The government began to take over savings banks, credit unions, banks, insurance companies, forcing these agencies to lend capital. Citizens with savings in these

agencies became a major source of finance for the government without their knowledge or consent (Abelshuser, 1998).[28]

3.4.3   Discussion

I started with the question of how Germany was able to obtain credit despite the likelihood of another war. In sum, investors only lent willingly to the Nazi government when the probability of war decreased after the Munich crisis, but this willingness was short lived (James, 2004). Otherwise, investors were either tricked with complicated financial practices or coerced by the command economy.

This begs the question if Germany's borrowing can really be considered borrowing. In Chapter 1, I outlined the potential benefits of borrowing, including avoiding inflation and allowing citizens to hold onto their capital (by avoiding taxes). It appears that Germany's borrowing strategy did not provide citizens these benefits. Germany's borrowing techniques incited inflation and the forced lending in the economy amounted to a tax. British borrowing, in comparison, was less inflationary, and thus, less damaging to the domestic economy.

This case of German forced borrowing highlights a host of interesting concepts. Forced lending is not unique to Germany, but was more prevalent in pre-modern times (Stasavage, 2011). Italian princes would often force individual bankers to lend them capital to help secure funds for the city-state. In 1930s Germany, the government had to take control of companies and other aspects of the economy to gain control of individual savings accounts. As noted above, one of the consequences of World War I, was the end of the monopolist control of financial intermediaries in the credit markets. With more competition in the credit market, conditions made it easier for governments to manipulate capital controls.

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[28] Germany's sovereign finance strategy foreshadowed how the Soviet Union would finance its own war effort. For the Soviet Union, this credit strategy carried well into the Cold War era (Homer and Sylla, 2005).

Stasavage (2011) argues that forced lending should be conceptualized in a similar manner as regular sovereign lending since there was expectations to be repaid and that forced lending rates often mirrored the rates found on secondary markets. However Stasavage's analysis, focused on a particular era, one that was devoid of sophisticated financial securities. While the German secondary market on its domestic debt suggests that Germany had access to inexpensive credit, its interest rate on the London market (for the 1924 Dawes Loan) underscores the risk the investors faced in the market.

Figure 3.1 shows the bond yields of Germany and Britain sovereign securities.[29] Germany had two major securities in the 1930s, its perpetual domestic bond and its external bond (the Dawes loan, which was floated on the London market in 1924). While the domestic and external bonds begin the decade with similar performances (correlation of 0.58 from 1924 to 1932), they quickly diverged when Hitler takes power.[30] The fact that the German domestic securities do not significantly change from 1935 throughout the duration of the war demonstrates the Nazi government's control over the domestic lending market. For comparison, the British securities, the consol (Britain's standard debt security) and the 1937 War Loan, behave alike (correlation of 0.83 from 1937 to 1945), showing little reaction to onset of war.[31] The consol rose slightly in the fall of 1939 as war approached but remained below four percent for the duration of the war. Given the capital controls in Britain, the bond price stability of both German and British domestic debt is expected.

Investors in Germany were not receiving the same risk premium (i.e. higher interest rates) in the domestic as they would in the London market. As we saw in the analysis above, even the credit worthy Britain had to resort to some credit manipulation in order to maintain its three percent war. This suggests that analyses

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[29] Bond yield data are taken from the Global Financial Database.

[30] Trading of Dawes securities was prohibited from the London market after the start of the war in the fall of 1939.

[31] There was no British foreign loan to make a comparison.
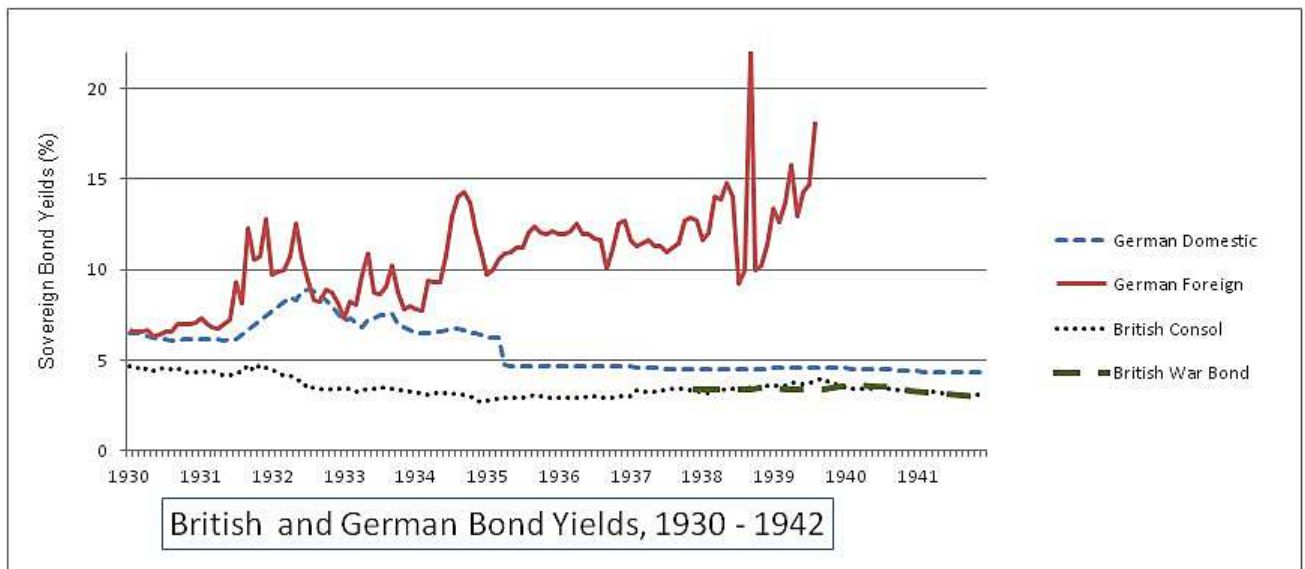
Figure 3.1: German and British Bond Yields

about the benefits of sovereign credit should focus on external debt, given that it less likely to be manipulated by governments.[32]

Germany's ponzi and inflationary credit scheme actually did help build a mobilization advantage early in the war. This allowed Germany to win a number of key strategic battles in the early outset of the war, and emboldened Germany's Allies, including Italy and Japan, to open up their own military campaigns. The early victories dampened Britain's hope for victory. However, as the war endured, the economic fundamentals of Britain and the United States became a significant

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[32] Manipulation is not impossible. The French government was able to pressure financial elites to extend a loan to Russia in 1906 (Ferguson, 1999a).

advantage, while Germany's command economy began to fall apart under the pressures of inflation. In other words, Germany sacrificed long-term stability for its mobilization effort, which ultimately hurt its war effort as the war continued.

In sum, while Germany did have access to domestic credit, this access does not dispute my theory about investors' guardedness of conflict escalation. Germany relied heavily on inflationary measures to finance its war effort. This was a direct result of Germany's inability to attract foreign and domestic credit through legitimate means. Because of this financial reality, Germany and German citizens did not enjoy the financial and economic benefits normally associated with sovereign credit. Instead, Germany's financial schemes disrupted the domestic economy, and weakened it to a point where it would become more of a hindrance as the war proceeded.

3.5   Conclusion

The above case analysis illuminate some of the limitations of my original theoretical expectations. By analyzing these deviant cases, I can adapt my theory. From both cases it appears that domestic investors' wariness of lending to Germany and Britain was outflanked by the respective government's ability to manipulate their domestic lending markets.

These cases illustrate the problem of conceptualizing and measuring the domestic debt securities given heterogeneity. While Great Britain relied on domestic debt for most of its early mobilization effort, its domestic debt securities provided many of the same benefits as external debt securities. Britain's domestic debt was voluntary, initially non-inflationary, and initially denominated in longer-term bonds to maintain stability in the Britain's financial system. The major difference between Britain's domestic debt benefits and potential external debt benefits is that domestic debt soaked up existing domestic capital, making it more difficult to float future domestic

loans. However, with a capital rich state, Britain did not experience this problem until the war was underway.

Conversely, Germany's domestic debt was forced and inflationary. In some ways Germany's domestic debt securities, such as the Mefo bills, can be conceptualized as a tax, since it was capital extracted by coercion. In other ways, the Mefo bills can be considered an inflationary strategy since redeemed bills were financed through newly printed currency. Regardless, the bills were successful in the sense that the maintained the illusion that Germany's mobilization was being financed legitimately. However, this illusion dissolved and Germany's ability to endure a long war was severely compromised.

A theoretical implication of these cases is how to conceptualize investor preferences. In Germany, investor preferences were not an important consideration in the government's ability to obtain domestic credit because the credit extraction was forced. Therefore, it is likely that my theory of sovereign lending is more appropriate for external lenders. In the subsequent quantitative chapter, where I examine the reaction of bond yields to the news of conflict, I will focus on external bond yields, given that domestic bond yields exhibit an unacceptable amount of heterogeneity to make valid comparisons.

It is important to note that the examination of deviant cases is not the end of the analysis. George and Bennett (2005, 112) recommend that to convincingly develop theory from case analysis, the revised theory should be tested with new evidence. In the next chapter, I take a large-N approach to investigate investor preferences by examining the reaction of sovereign market bond yields to the news of conflict0. While the tests in the next chapter uses the theory outline in Chapter 1 as the basis of my hypotheses, I use the revisions mandated from the deviant cases in this chapter to guide my tests.

3.6   Appendix

3.6.1   Standstill Agreement

Britain's policy towards a more aggressive Germany was complicated by the financial connections that private investors made within Germany. British investment in Germany in the post World War I era was encouraged by the Bank of England in an effort to stave off the hegemony of American capital and encourage a more open European economic system (Newton, 1996). When Germany threatened default on its government debt and reparations responsibilities in 1931, Britain did not provide a strong protest in fear that private loans would be defaulted as well. Fear of default was not the only motivation, as Germany proved to be a valuable customer for British finance, providing more business than the United States and any other non-Anglo country (Newton, 1996, 66).

In 1931 the Bank of England helped coordinate a $100 million credit loan to the Reichsbank to keep the German financial system alive (Newton, 1996). The Bank also negotiated a Standstill Agreement in 1931, which essentially froze 62 percent of British investments in Germany, but set up a system of interest payments to avoid additional defaults. This agreement was renewed every year until 1939, and effectively trapped a large portion of British foreign capital in Germany (Newton, 1996).

Chapter 4

Sovereign Credit and War: Event Study Analysis

Thus far in this dissertation, I have argued and demonstrated that sovereign lenders have to balance the risks of conflict with new lending opportunities. Conflict is a potential byproduct of internationalist policies that sovereign investors usually favor due to the possibilities of new markets (Lobell, 2008). In addition, while conflict creates risk, it also creates demand for additional government revenue. As long as conflicts do not escalate, then sovereign lenders have incentives to maintain or even increase their investment in sovereign debt.

Sovereign investors' preference for a particular government strategy is dependent on how likely that strategy affects the probability of debt repayment. The probability of repayment is a function of whether government strategies escalate conflicts to larger wars. If the conflict escalates, the government's demand for revenue increases, raising the probability that the government will suspend payments and default on its existing debt.

Previous examinations of sovereign credit and war have largely ignored the benefits of conflict lending. If the sovereign investors are well informed about government decisions - as was the case for the Rothschilds in 19th century Europe - then the investors can simply base their lending decisions on the observable risks of war. However, conflict decisions often involve information unknown to the sovereign bond investors. Investors can make inferences about this latent information based on the characteristics of the state in the dispute or from the characteristics of the international security environment. Depending on these inferences, investors can judge whether a conflict provides a profit opportunity or espouses too much risk for their

investments.

This chapter provides a quantitative examination of my theory of sovereign investor preferences. Unlike Chapter 2, I will examine a time period (1914 - 2001) of sovereign credit where there is a lack of monopolistic intermediaries and investors have low information about a state's willingness to honor debt obligations. Given the low information environment, investors will rely more on states' latent characteristic to determine the risk of repayment given a conflict. The rest of the chapter is structured as follows. First, I briefly outline my theoretical expectations for the statistical analysis. Next, I describe my method - event study analysis - in detail because it is not widely used in political science. Then I discuss my data and present my results. I conclude with a discussion of the implications of my findings on state capacity and war mobilization efforts.

4.1   Theory Revisited

Risk for sovereign lenders during conflict can be limited if escalation is unlikely. In Chapter 2, I examined how the Rothschilds based their lending to Austria on the likelihood that Austria's interventionist foreign policy would lead to a continental war. As long as the likelihood of escalation was low, the Rothschilds were willing to lend. The Rothschilds enjoyed a special informational advantage because of their monopolistic position in the sovereign credit market. Governments were willing to share information with the Rothschilds to help facilitate lending. In addition, the Rothschilds had incentives to undertake costly informational acquisition activities to reduce information asymmetry in the market. However, as the Rothschilds' monopolistic position in the market eroded throughout the 19th century, they lost their information advantage. Since that time, no other monopolistic intermediary has emerged in the market. As a result, sovereign markets no longer look to the activities of major intermediaries to determine whether a state is about to enter a war

or not. Instead, investors are forced to rely on latent characteristics of the state to determine whether war is likely or not.

Sovereign investors will favor states that have characteristics that suggest a low likelihood of conflict escalation. For example, regimes type may indicate likelihood of conflict escalation. Some scholars have argued that democratic leaders are more politically accountable for their foreign policy decisions (Bueno de Mesquita and Siverson, 1995; Leeds, 1999; Gelpi and Grieco, 2000; Huth and Allee, 2002; Lipson, 2003). Democracies provide more institutional avenues for citizens to act on their preferences for war or peace. While there is variation in the institutional rules in democracies, the one constant in these regimes is that the tenure of leaders is conditional on some form of public support, typically expressed through elections (Przeworski, 1991). This accountability incentive pushes democracies to avoid escalating their conflict. Huth and Allee (2002) find that democracies are less likely to resort to higher levels of escalation in military confrontations. Because of democracies' careful selection process, investors should be more likely to react favorably to democracies in conflict. Therefore, (H1) *democracies will be more likely to receive lower interest rates during a conflict than non-democracies.*

Besides using democratic institutions to make inferences, investors can also make judgements about risk from states' previous conflict behavior, specifically involvement in militarized disputes. States frequently involved in conflict will be viewed as a risky investment. Frequent conflict exacerbates budget pressures and raises the probability that a country will eventually be involved in a full-scale war. Therefore, states recently in a conflict will provoke higher investor anxiety than states that have not recently been in a conflict. Specifically, (H2) *states that have been involved in a conflict in the previous five years will be more likely to face higher borrowing costs in the sovereign debt market.*

Investors can also look for cues in the international environment whether a conflict will spiral into a war. The nature of the dispute can affect the probability of war.

Empirical research has demonstrated that disputes over territory are much more likely to lead to war than disputes over policy disagreements. Senese and Vasquez (2008) find that territorial disputes are more likely to lead to war because states are more likely to follow *realpolitik* strategies that can lead to escalation. Therefore, (H3) *states in territorial disputes will be more likely to face higher borrowing costs than states in policy disputes.*

In addition to the nature of the dispute, investors can also examine the nature of a state's security environment. States in a high threat environment are more likely to enter a dispute and are more likely to escalate to wars (Bremer, 1992). For example, the Royal Institute of International Affairs (a policy institute in Great Britain) wrote in 1937, "There has been little or no difficulty in connection with service payments on foreign investment in Japan, whose credit standing would consequently be very high, were it not for the continued threat of war in the Far East" (quoted in Tomz 2007, 101-102). Given this, I expect (H4) *states in high threat security environments will be more likely to face higher borrowing costs at the onset of a militarized dispute.*

The above hypotheses assert that investors will provide credit to states that enter conflict if the risk for escalation is low. The ideal situation for investors is that governments prepare for war, but never actually go to war. However, an alternative explanation for investor behavior offered in the literature is that investors bet on expected winners (Flandreau and Flores, 2012). While this assertion has theoretical appeal, there are several reasons why it is unlikely. First, the benefits of victory are limited. "Asking who won a given war," Kenneth Waltz (1959, 1) wrote, "is like asking who won the San Francisco earthquake." The gains from victory are often overwhelmed by the costs involved. In addition, the benefits that can be attained in war are not always easily transformed into cash to make interest payments.

A second reason why victory expectation is not appealing to investors is that the macroeconomic effects of war are long-lasting. Although Germany was forced to assume the war debt responsibilities of the Allied forces after World War I, the

French and the British also faced harsh economic consequences and eventually defaulted on their debt obligations to the United States (Ferguson, 1999b). In addition, victory, under certain condition may actually make default more likely. After victory, state leaders enjoy "rally-round-the-flag" effects, which decrease the likelihood of political opposition in times of crisis because of social dynamics that increase domestic cohesion (Mueller, 1973; Schultz, 2001). While these effects may be temporary (Brody and Shapiro, 1989), they can help mitigate the economic fallout of default. Therefore, leaders may use the cover of victory to default on their loan obligations.

Not only is there limited theoretical support for the assertion that investors bet on expected war winners, there is no empirical support in the existing literature.[1] To rule out this alternative explanation, I will determine whether investors favor expected winners.

Democracies have been found to have an advantage in conflict, as they are more likely to win their wars (Reiter and Stam, 1998). Democracies are theoretically more likely to win wars because democracies are wealthier, can devote more resources to security, and extract higher societal support (Lake, 1992). Democracies also employ more effective military strategies because democracies promote more efficient combat unit leadership (Biddle, 2004; Reiter and Stam, 1998). However, democracies are also less likely to escalate their conflicts. Therefore, it is difficult to infer whether investors favor democracies because they avoid escalation or because they tend to win their wars.[2]

Capabilities do not suffer from the same indeterminate expectations. Investors can infer a state's probability of victory from its military capabilities. The lower the level of capabilities, the less likely a state will win (Stam, 1996). Therefore, if

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[1] In a working paper, Shea and Poast (2013) find negligible differences in default rates between winners and losers.

[2] The case analysis in Chapters 2 and 3 did not reveal any evidence that investors thought that democracies had a particular advantage in war.

investors bet on winners (H5a) *states with low military capacity will be more likely to face higher borrowing costs during conflict.* However, lower levels of miliary capacity decreases the probability that a state will escalate its conflict. Therefore, if investors prefer to limit the risk of escalation then (H5b) *states with low military capacity will be more likely to face lower borrowing costs during conflict.* Given that these hypotheses assert different directional relationships between costs of borrowing and military capabilities, it provides a clean test to rule out the "betting on winners" alternative explanation.

In the next sections I present the research design that will test these hypotheses and report the results of my analysis.

4.2   Research Design

To test the hypotheses discussed above, I use a sample of militarized disputes in a period of time that I expect state's latent characteristics to be important to investors in determining the likelihood of escalation (1914 to 2001). To analyze the effect of conflict on sovereign lending prices, I use event study analysis, a method commonly used to measure the effect of events on security markets. The following section will discuss the event study analysis method in more detail. I will then discuss the data and the models used to test the hypotheses for the 1914-2001 sample.

4.2.1   Method - event study analysis

In the fields of economics and finance, event study analysis (ESA) is the standard method to measure security price reaction to some news or event (Binder, 1998). The intuition behind the method is as follows: market prices in a particular security (i.e. bonds, stocks, etc.) react to new information in the market. The effect of the new information is measured by differences in the *actual* security price and the *estimated* counterfactual price - what the price would have been if the new information did

not enter the market. Prices can be compared across a sample of units over time, if the events share common characteristics and the dynamics of the different markets remain comparable. Many studies have examined market reactions to companies' earnings reports, stock splits, or merger and acquisition announcements. ESA has also been used to measure the effects of new laws and economic crises (Wilson et al., 2000).

ESA has recently begun to appear in political research. Den Hartog and Monroe (2008) examine how asset prices changed when the U.S. Senate switched from Republican and Democratic majorities. Campello (2012) tests whether stock markets react negatively to leftist victories in a cross-section of countries. Economists Guidolin and La Ferrara (2010) examine how asset prices react to incidences of violent conflict.[3]

ESA is well suited to measure the economic and financial effects of political events, especially the effects of interstate conflict. ESA calculates the difference between market performance after an event, and compares it to a counterfactual - an estimate of the market as if the event did not occur. More formally, this can be represented by:

$$AR_{i\tau} = R_{i\tau} - E(R_{i\tau} \mid X_\tau)$$

where:

- $AR_{i\tau}$ is the abnormal return of the market for a given event, i, in a given time, τ,

- $R_{i\tau}$ is the actual return of the market (i.e. what we observe),

- $E(R_{i\tau} \mid X_\tau)$ is the estimated return of the market conditioned on the counterfactual (i.e. the event not taking place),

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[3] I will discuss in a later section how my study differs from Guidolin and La Ferrara's (2010) analysis.

- and X_τ is conditioning information of the expected return model.

In sum, the abnormal return measures the unanticipated change in the value of a security because of the occurrence of an event. In order to calculate the abnormal return, the estimated (or normal) return must be modeled on some set of information, X_τ.

There are several steps to successfully conduct ESA. First, the time period that the security prices are examined is identified. There are two components to time: the event window and the estimation window. The event window includes the time that the event occurred. It can also include the time after the event if the effects of the event are longer lasting. The event window can also include time before the event if one believes that the market anticipates the event. The event window should be shorter than the estimation window and should not overlap with the event window. Figure 4.1 shows two examples of ESA; one with pre and post event windows and one without.

The estimation window is normally before the occurrence of the event so that the residual effects of the event do not affect estimation. The advantage of a longer estimation window is more accurate estimates. The disadvantage is that the estimation window will overlap with prior events, which biases the estimation. If a unit experiences multiple events (i.e. conflicts), then the researcher must be careful not to let the estimation window be influenced by prior events.

Next, a selection criterion is used to select units (i.e. companies, countries, etc.) into the sample. I have included all states with sovereign bond yield data into the sample. This does introduce the possibility of selection bias since it excludes states without this data. However, as long as the inferences are limited to the given sample, then the bias is limited (Signorino, 2002).

ESA then requires the calculation of the abnormal return.[4] This study uses a

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[4]There are two common ways to do this: a constant mean model and a market model. A constant mean model takes the mean of a security price as constant over time. Therefore, you can

market model, which assumes that there is a consistent linear relationship between the security price and some set of covariates. The security prices are regressed on the covariates in the estimation window to generate residuals that estimate market performance as if the event did not occur. This procedure is repeated for each event in the sample. This generates a vector of abnormal returns. Most studies focus on the mean distribution of the abnormal returns as a measure of the effect of the event. The variance of the distribution is also important as it used to derive a test statistic useful for testing hypotheses.[5] In most cases, the null hypothesis is whether the mean of the abnormal return is equal to zero. In other words, the null hypothesis

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calculate the mean from the estimation window, and assume that the market would have had that price in the event window. The abnormal price would be the difference between the mean and the actual price.

[5] For a discussion of different test statistics used for event study analysis see Khotari and Warner (2006).

(a) Event Study Analysis

(b) Event Study Analysis with Pre and Post Event Windows
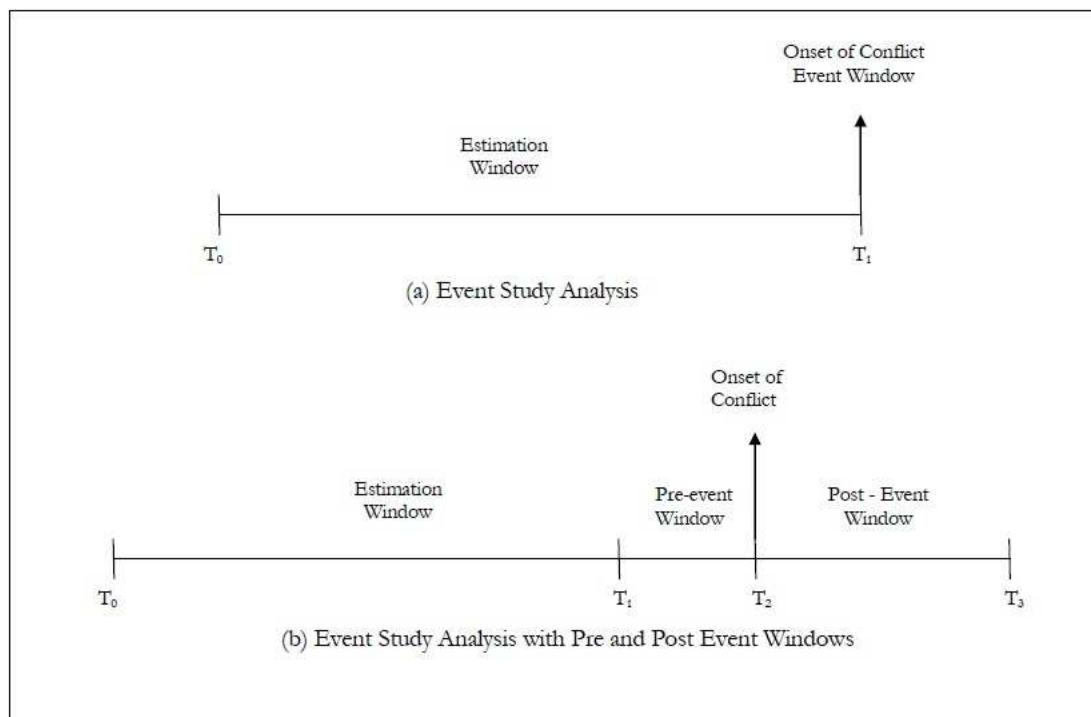
Figure 4.1: Estimation and Event Windows

is there is no difference between the actual market performance and the estimated market performance given no event.

The time periods around the event can also be examined to test whether there is a difference between estimated and actual market returns. If there is theoretical justification that investors anticipate the event of interest, then abnormal returns are calculated for a pre-event window. Similarly, if one expects that the event to have long-lasting effects, abnormal returns can be calculated for a post-event window. When multiple time periods (i.e. more than one month) are being examined in the event window, the sum of each time period's abnormal return is taken. As with the single period model, the null hypothesis is that the cumulative abnormal return equals zero can be tested.[6]

4.2.2   Data

This study uses bond yields to reflect investors' expectations of risk. If a conflict is expected to decrease the probability that a state will repay its debt or generally lower the value of the sovereign's debt, then we should expect bond yields to increase. We should observe decreased bond yields when more lenders have increased confidence in a particular sovereign bond.

Bond yields are useful indices since they directly reflect the risk expectations of sovereign investors. In addition, they are available in relatively long time series in monthly increments. I rely on monthly increments because they allow for the most number of cases without having to rely on inefficient annual data.

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[6]There are trade-offs for testing pre and post-event effects. The estimated market return will be more inefficient the longer the event window. Longer event windows increase the probability that unaccounted events are contaminating the abnormal return calculation. In addition, the longer the event window is, the smaller the ratio between the estimation and event windows. This means that the model attempts to estimate the effects of the event for a longer time with no new information. Shorter time horizons (i.e. shorter event windows) are easier to specify. In addition, the results are less likely to be influenced by unaccounted for events. However, if the event window is too short, it may underestimate the effects of events that are more prominent in pre or post-event times.

This study will focus on the effects of conflict from 1914 to 2001.[7] I limit the sample to 1914 to 2001 frame because of the differences between the sovereign debt markets before 1914 and after 1914. During the former period, a few international intermediaries such as the Rothschild and Baring banks dominated the sovereign lending market. The bond market would often take its cues from these intermediaries rather than states' characteristics (Flandreau and Flores, 2009, 2012). Therefore, I expect that investors would give less consideration to the characteristics of the state in decisions to buy, hold, or sell sovereign securities. The latter sample is devoid of dominant intermediaries, as states began to issue their own loans, selling securities directly to the investors.

Bond yield data are taken from Global Financial Data. I rely on ten year bonds for states if available. If a state does not have ten-year bonds, I use a comparable length security, but no less than five years. I avoid domestic bond yields because of the inferences made from Chapter 3. Governments are able to manipulate domestic debt securities, and therefore, can mask investor preferences in the market.

Conflict data is taken from Correlates of War, version 3.0 (Ghosn et al., 2004). A militarized dispute (MID) is defined as a conflict when one or more states threaten, display, or use force against one or more states. The sample includes 897 conflicts between 1914 to 2001.

To determine whether certain state characteristics affect market reaction to conflict, I look at several control variables. First, I examine regime type. To remain consistent with other studies, I use the Polity data set to measure democracy (Marshall and Jaggers, 2010). I code a state a democracy if that state has a Polity score higher than or equal to 6. An non-democracy is a state with a Polity score less than or equal to -6.

I operationalize threat environment using Leeds and Savun's (2007) measure.

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[7] There are available bond data before 1914. To test for robustness, I will split the data into additional time increments to ensure this particular time period is not driving the results.

Each state has a politically relevant environment made up of the major powers and contagious states. States without alliances and an S-score lower than the median are considered potential threats.[8] The capabilities score for each threat is summed. I define low threat environments if the threat is at least one standard deviation below the mean. High threat environment are at least one standard deviation above the mean threat.

I also control for territorial and policy disputes. The COW data set makes distinction between these types of disputes.

Finally, to test whether investors are betting on winners, I examine military capabilities, which combines COW National Material Capabilities (v4.0) data on energy, military troops, industrial production, and urban population. A state is considered to have low military capabilities if its capabilities are below the sample average and is considered to have high military capabilities if its capabilities are above the sample average.

4.2.3   The Model

To create the counterfactual market performance, I use an aggregate measure of bond yields. The aggregate bond yield is the average of all bond yields for that given month, not including the interest rate of the country of interest into the calculations. [9] I regress a country's yield on the aggregate for observations in the estimation window to estimate market performance in the event window. The estimation window includes the thirty months of bond data before the onset of conflict. Figure 4.2 shows two country examples: one with a positive reaction from

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[8]See Signorino and Ritter (1999) for more information S-score. In sum, it is a measure of states' foreign policy similarities.

[9]As an alternative measure, I use a proxy of the global interest rate. The proxy used for the global interest rate is the United States' interest rate from 1914-2001. If the United States is the unit of analysis, I use Great Britain's bond yield. I use these countries' interest rates as a proxy for global rates to be consistent with previous studies that have measured states' credit worthiness (Mauro et al., 2006; Dincecco, 2009). The alternative measure produced similar results (results not shown).
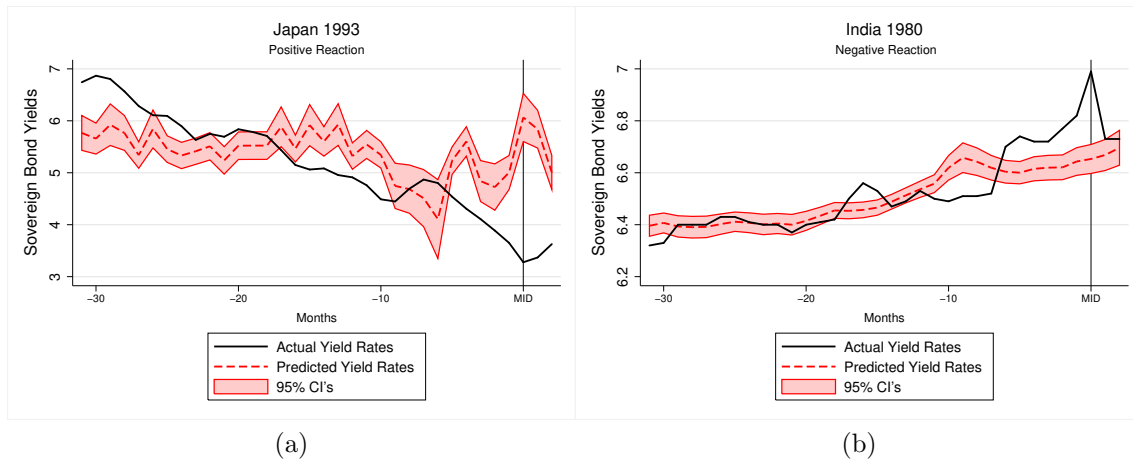
Figure 4.2: Sovereign Bond Yields Reaction to Conflict

the market and one with a negative reaction from the market. The abnornal return
is represented by the difference in the actual bond yields and the estimated bond
yields at the time of the militarized dispute.

The event window for the initial models includes pre and post-event windows.
The pre-event window is one month before the onset of conflict and is designed to
test whether the market anticipates the event or not. The post-event window is
three months long (including the month that the conflict began) and is designed to
give the markets more time to react to conflict events. Longer post-event windows
allow ESA to measure investors' preferences about state behavior and the nature of
the conflict.

To measure market reactions, I calculate the difference between the actual market
performance and the expected performance given no conflict. This abnormal per-
formance represents the bond market's reaction to conflict. I then split the sample
by defining characteristics (i.e. democracies and autocracies) to determine whether
these characteristics provoke different responses from the market.

Guidolin and La Ferrara (2010) (hereafter GLF) have already taken a prelimi-
nary examination of conflict's effect on economic markets. My study differs from
their analysis in three important ways. First, the analysis is this chapter focuses

on the effect of conflict on sovereign bond yields, while GLF examine the effects of stock market indices and commodity markets. By focusing on sovereign bond yields, I can directly measure how conflict affects governments' costs of borrowing.

The second major difference between my analysis and GLF is that GLF focuses on how all incidences of conflict affect the four major markets in the United States, United Kingdom, France and Japan. Conversely, I only examine the markets of states that are directly involved in a conflict. To correctly specify the event study analysis model, it is required to assume that events are somewhat uniform. Theoretically, we should expect American stock markets to react differently when the United States is directly involved in a conflict compared to an internal conflict in another country. The weak results for Japan market in GLF's analysis is probably the result of the heterogeneity of the events since Japan is rarely involved in disputes in GLF's sample. GLF also make no distinction between intrastate and interstate conflict, which raises the possibility that events are not homogenous in their sample. My analysis only examines the effects of interstate conflict.

The final important difference between my analysis and GLF is that I ensure that previous conflicts do not contaminate the estimation windows. If an estimation window contains a conflict event it is excluded from my sample. GLF do not make these exclusions. For example, GLF's hundred-week estimation window before the Iraq War includes market responses to the Afghanistan War and the September 11th attacks. Given the volatility of geopolitical events in this estimation window, it is not clear how well we can estimate expected market perforce for that particular event window.

4.2.4 Results

Table 4.1 examines the effects of militarized disputes (MIDs) on sovereign bond yields, using a pre and post-event window. Column A examines the pre-event window, the one month before the conflict, to determine if there are any anticipatory

effects in the bond market. Column B in Table 4.1 analyzes the three month post-event window (including the event month itself). The results report an abnormal return coefficient that signifies the direction and magnitude of the event effect. A negative reaction from investors would result in a positive change in bond yields (i.e. higher costs of borrowing for a state). The results also report the p–value of the coefficient and the number of observations. Examining all MIDs, we observe that the coefficient is positive, but small and statistically insignificant. There is no conclusive evidence that investors react negatively to conflict.

Table 4.1: Pre and Post Effect of Conflict on Bond Yields 1914-2001

	Pre-Event Window (A)		Post-Event Window (B)		
	AR	p-value	AR	p-value	N
MID	-2.74	0.30	0.17	0.61	897
Democracy	-4.66	0.27	-1.00	0.00	554
Autocracy	0.04	0.89	1.38	0.19	110
Recent Conflict	0.66	0.04	2.92	0.01	190
Territorial Dispute	0.44	0.21	3.11	0.04	104
Policy Dispute	-1.06	0.63	-1.65	0.04	161
High Threat	-9.51	0.27	0.50	0.53	280
Low Threat	-0.22	0.34	-0.79	0.07	115
Low Capabilities	-4.04	0.28	-0.59	0.03	628

AR = Abnormal Return Coefficient Estimates; Post-event window includes event month

Pre-Event Window is one month. Post-event window is three months

Only states recently involved in a conflict face a significant anticipatory reaction from investors. This suggests that investors can anticipate the effects of conflict when states have recently been involved in conflict. Regime type, capabilities, and threat environment do not matter to investors before the onset of conflict. In short there is little supporting evidence that investors anticipate the onset of conflict, except for states recently in conflict.

Examining the different characteristics of states in the post-event window, I find that investors do react differently to different states. Different regime types face

different reactions from bond markets. As expected, democracies receive a favorable reaction from the lending market. Lenders know that democracies have incentives to avoid disastrous foreign policies. Therefore, there is less risk that democracies will follow escalation strategies. The results also show that the sovereign bond market is indifferent to autocracies in conflict.

States recently in conflict (in the previous five years) face higher lending rates. Investors infer that states frequently in conflict will continually find themselves in conflict, which increases the probability that these states will eventually find themselves in a war. While there are anticipatory effects for this variable, the post-event effects are much larger then the pre-event effects, suggesting that not all investors correctly anticipate conflict for this sub-sample.

The threat environment sub-samples produced mostly null results. States in high threat environments did not face statically different bond market reactions. States in low threat environments faced favorable lending conditions, but with a significance level just above the five percent threshold (p–value = 0.07). States involved in conflict for territorial purposes faced higher than normal bond yields, while states involved in conflict for policy purposes faced lower than normal bond yields, supporting the assertion in hypothesis four. This finding not only supports the assertion that investors favor states unlikely to escalate their conflict, it undermines the "betting on winners" explanation. Territory offers a much more tangible victory spoil than policy concessions. States can use territory to help pay their debt obligations, while policy concessions does not necessarily help with revenue flows. Therefore, if investors were betting on winners, we would expect them to bet on states involved in territory disputes. The analysis does not support this assertion.

Contrary to the assertion of the "betting on winners" explanation, states with low capabilities receive a favorable reaction in the sovereign bond market when conflict begins. This suggests that investors care more about conflicts escalating to wars than who will win wars. Financial risk can be mitigated if conflicts do

not escalate into total war. States with low military capacity are less likely to win military engagements, and thus have more incentives to seek a negotiated settlement. Therefore, states with low military capacity are less likely to escalate conflict to wars. States with higher military capacity have incentives to use force to reach their objectives, which raises the risk of escalation.

The results demonstrate that sovereign bond investors do not always react negatively to conflict. If the characteristics of the state or dispute suggest that the conflict will not escalate into a war, then that state will receive a favorable reaction from the lending market.

4.2.5   Robustness

Event study analysis is a powerful method to study the effect of an event on security markets. However, the analysis can be sensitive to model specification. To ensure that the results are not sensitive to research design choices, I conduct a number of robustness checks.

The first robustness check examines the heterogeneity of conflict events. An argument can be made that conflict, especially militarized disputes, are not homogenous, and therefore would create different reactions from sovereign bond markets. Bond markets may not be concerned when a state threatens to use force, but would be concerned if a state actually uses force. Table 4.2 shows that the bond markets show no significant reaction when states use military force. The same is true for fatal militarized disputes, which are MIDs with at least twenty-five battle deaths. These results demonstrate that the seriousness of the conflict does not provoke a greater response from the bond market, nor does it create anticipatory effects.

In another robustness check, I examine whether the length of the event window affects the results. I elongate the event window, trying different lengths for both the pre and post-event windows. I extend the pre-event window to three months and

Table 4.2: Pre and Post Effect of Different Conflicts on Bond Yields 1816-2001

	Pre-Event Window (A)		Post-Event Window (B)		
	AR	p-value	AR	p-value	N
Use of Force	-0.48	0.69	0.77	0.20	394
Fatal MID	1.74	0.08	1.02	0.14	153

AR = Abnormal Return Coefficient; Pre-Event Window is one month

Post-event window is three months (including event month)

find anticipatory effects only for states with high capabilities. I also extend the post-event window to six months. When compared to the results in Table 4.1, the results in Table 4.3 are similar except that territorial and policy disputes' significance levels are now just above the five percent threshold (p-value = 0.06).

Table 4.3: Examining Different Event Windows 1914-2001

	Pre-Event Window (A)		Post-Event Window (B)		
	AR	p-value	AR	p-value	N
MID	2.98	0.22	0.22	0.77	818
Democracy	-5.94	0.13	-2.75	0.00	514
Autocracy	2.13	0.26	4.59	0.07	101
Recent Conflict	1.97	0.09	6.17	0.01	174
Territorial Dispute	0.78	0.66	5.64	0.06	95
Policy Dispute	-5.40	0.06	-3.93	0.06	152
High Threat	-9.08	0.26	1.30	0.40	254
Low Threat	-0.51	0.41	-1.34	0.20	117
Low Capabilities	-4.96	0.15	-1.49	0.04	585

AR = Abnormal Return Coefficient Estimates; Post-event window includes event month

Pre-Event Window is three months. Post-event window is six months

The final robustness check tests whether markets will have different reactions to conflict in different time periods. I analyze two alternative time periods: 1816 to 1913 and 1945 to 2001. As stated above, the sovereign bond market was dominated by large financial intermediaries before 1913. Therefore, I expect that investors will not react to the different characteristics of the state or the different characteristics of the dispute. Instead investors' reactions would be a function of the dominant

intermediaries' actions. The results in Table 4.4 confirm this expectation.

Table 4.4: Effect of Conflict on Bond Yields in Different Eras

	Pre-Event Window (A)		Post-Event Window (B)		
	AR	p-value	AR	p-value	N
1816 - 1913					
MID	-0.02	0.80	0.07	0.69	440
Democracy	-0.11	0.30	-0.05	0.86	125
Autocracy	-0.05	0.61	-0.17	0.59	59
Recent Conflict	0.13	0.50	0.32	0.38	71
Territorial Dispute	-0.14	0.35	-0.15	0.76	81
Policy Dispute	0.00	0.99	0.26	0.33	128
High Threat	0.02	0.84	0.05	0.83	85
Low Threat	-0.18	0.46	-0.80	0.33	14
Low Capabilities	-0.06	0.58	-0.04	0.89	238
1945 - 2001					
MID	-4.28	0.27	-0.56	0.11	594
Democracy	-5.62	0.27	-1.08	0.00	451
Autocracy	0.13	0.85	3.20	0.17	50
Recent Conflict	0.19	0.42	3.08	0.03	125
Territorial Dispute	0.41	0.33	0.87	0.45	68
Policy Dispute	-1.59	0.64	-2.43	0.06	99
High Threat	-22.64	0.25	-3.06	0.00	115
Low Threat	-0.22	0.36	-1.04	0.17	42
Low Capabilities	-5.78	0.27	-1.00	0.01	435

AR = Abnormal Return Coefficient Estimates; Post-event window includes event month

Pre-Event Window is one month. Post-event window is three months

I also examine a sub-set of the original analysis, 1945 to 2001, to ensure that the conflicts and economic instability of 1914-1944 do not drive my results. I expect that this is not the case, and the results of the sub-sample should be consistent with the results in Table 4.1.

The results in Table 4.4 support most of my expectations. The results from 1816 - 1913 show weak reaction from the bond market, even in the post-event window. In the 1945 - 2001 sample, there are still no anticipatory effects. The results in post-event window are consistent with the results in Table 4.1 with one important difference. States in high threat areas actually received favorable reactions from

the bond market. This unexpected result may be a function of the importance of alliances during this time period, particularly for NATO and Warsaw Pact states. States in high threat environments that are also in alliances could receive favorable reactions from the market because membership in these alliances reduces the probability that conflict will not escalate to total war.

The results of these robustness checks demonstrate the results in Table 4.1 are robust across different event window specifications. However, some unexpected results show that more research is needed to examine how markets react to conflict when alliances are involved.

4.3 Conclusion

In this chapter, I demonstrate that investors do not always have dovish preferences and will lend to states if the risks of escalation are low. These results have several important implications for the study of war mobilization and state capacity. First, the results directly contradict the conventional wisdom that the financial community prefers dovish policies. Instead, investor preferences are a function of the uncertainty of crisis escalation, which can create lucrative investment opportunities despite added risk.

The second implication of this chapter is that it consistently demonstrates that democracies receive favorable market conditions at the onset of a conflict. There is an established literature that argues that democracies receive better credit access because of institutional constraints (Schultz and Weingast, 2003; North and Weingast, 1989). My results suggest an alternative mechanism that explains why democracies receive better credit access. During a conflict investors believe that democratic states will avoid escalation, and as a result receive favorable lending rates. While these alternative explanation are not necessarily theoretically contradictory, the results in this chapter support the escalation mechanisms. The ESA models examine the

changes in the lending market to new information. If states were receiving better terms of credit based on their democratic institutions, we should expect that the news of conflict would have no effect on the lending rates. Instead, we observe a positive reaction from the credit market for democracies, suggesting that the investors provide favorable lending rates under certain conditions, specifically the start of a militarized dispute.

Conversely, investors do not favor states with higher military capabilities, suggesting that investors care more about the risks of escalation rather than the potential victors of war. The results of this chapter consistently show that investors will favor states less likely to escalate their conflicts into wars. I find no evidence that investors bet on expected winners.

The results of this chapter also show the usefulness of event study analysis in inferring investor preferences in the sovereign credit market. Event study analysis allows the direct comparison of the actual reaction of the market to the estimated counterfactual reaction. This comparison provides a direct measure of the causal effect of conflict on sovereign credit markets.

Finally, this chapter demonstrates the strategic nature of investors' decision-making in the sovereign debt market. Investors' reactions have consequential effects on states' borrowing costs. More research is needed to determine whether governments anticipate investors' reactions, and if this affects decisions to enter conflict. The next chapter addresses some of these issues.

Thus far in this dissertation, I have focused on how sovereign lenders react to conflict and the possibility of war. However, as I acknowledged in Chapter 1, a possible endogenous relationship may exist, where the probability of conflict (and subsequent escalation) is a function of sovereign credit access. In Chapter 1, I outlined the reasons why I did not expect endogeneity to threaten the inferences of this study. In Chapter 2, the analysis of the 1830 Belgium Crisis and the 1866 Holstein Crisis showed that access to credit did not factor into decisions to escalate

conflicts. Chapter 3 showed that Germany, less credit worthy than Britain, was more aggressive in its military build-up. However, I have yet to systematically demonstrate that credit access has limited effects on conflict decision making. In the next chapter, I statistically examine the role of credit in conflict decisions.

Chapter 5
Credit Costs and Conflict Initiation

Thus far in this dissertation, I have demonstrated that sovereign investors are more likely to lend to states when the threat of escalation is low. The results have challenged the assertion that sovereign lenders usually abhor conflict (Kirshner, 2007) and that lenders bet on expected winners (Flandreau and Flores, 2012).

However, scholars have also argued that sovereign lenders' dovish preferences constrain governments' decisions to go to war (Polanyi, 1944; Flandreau and Flores, 2012). If this is the case, endogeneity or selection effects may threaten the potential inferences in the analysis; sovereigns may refrain from unlimited wars because they realize that lenders will not provide funding.

While finance is important for governments to manage war efforts, there are several reasons why governments should not be constrained by the influence of finance. First, withholding credit increases the possibility that the government would pursue a sub-optimal financing strategy such as inflation or higher taxes. This would increase macroeconomic instability in the economy, threatening financial assets' values. For example, the British financial community reacted favorably to the first round of defense loans in 1936 because the loans were not accompanied by new taxes (Peden, 2000). As long as leaders have worse alternatives available to finance a war, sovereign lenders have some incentives to lend to governments.

Second, lenders face collective action problems when lending to states. Governments can offer more enticing lending conditions to convince lenders to defect from a credit boycott. This held true even in the 19th century, when the sovereign lending

market was dominated by a handful of international firms. These firms had incentives to lend to states preparing for war, else risk losing business to competitors. The Rothschilds were willing to accept a sovereign's demands and "pay above the odds to keep rivals at bay" (Ziegler, 1988, 140). Governments were aware of the competitive pressures on the sovereign lending market, and would subsequently organize their loans through a consortium of banks so that no one lender could dictate lending conditions. Because of this, it is difficult for finance to organize to restrict credit access. The price of credit may still increase given lending pressures and the conditions of the market. However, I expect that this increase in credit price (i.e. higher interest rates) has a marginally low impact on decisions to enter conflict. I will test this assertion below.

From a practical standpoint, it is unclear how well leaders understand the benefits (and pitfalls) of sovereign lending. It is reasonable to expect that there is heterogeneity in leaders' financial sophistication. Some leaders may anticipate the benefits of sovereign credit during war, while others may not realize its importance until a war is underway. This may impede any causal connection between credit and conflict initiation.

Given these factors, I expect that credit has little marginal effect on the conflict initiation. The following section will empirically examine these expectations using data on credit costs and conflict initiation.

5.1   Empirical Analysis

This section will examine whether lending conditions affect government's decisions to enter conflict. I begin with a monadic panel data approach using logistic regressions (with random effects), and then present a series of robustness checks. The models examine data from 1816 to 2001. A description of the variables follows.

5.1.1 Variables

Dependent Variables

This analysis is interested in whether a state is more willing to initiate conflict given the constraints of credit. Conflict data are taken from the Correlates of War (COW) dataset, version 3.0 (Ghosn et al., 2004). A militarized dispute (MID) is defined as a conflict when one or more states threaten, display, or use force against one or more states. I also examine the proclivity to initiate fatal MIDs, which are MIDs with at least 25 battle deaths.

Explanatory Variables

The main explanatory variable for this analysis is the interest rate on a government's debt instrument in a given year. Interest rates are simply the costs of borrowing, and are commonly used as an indicator of credit worthiness (Mauro et al., 2006; Dincecco, 2009). States that are at high risk for default will pay higher risk cost premiums (i.e. higher interest rates). All else being equal, higher interest rates make raising money more expensive and fighting a war more costly.

Interest rate information is drawn from ten year government bonds when possible. If not possible, interest rates are used from comparable long-term financial securities utilized by the state government to raise sovereign debt. Domestic securities are avoided given potential heteogeneity (see Chapter 3). Interest rate data are drawn from Global Financial Data. To account for temporal distribution of global interest rate averages, I construct a ratio variable, with the nominal interest rate of a state divided by a proxy of the global interest rate.[1] The measure is lagged by one year, to avoid endogeneity.

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[1] The proxy used for the global interest rate is Great Britain's interest rate from 1816 - 1913 and the United States' interest rate from 1914-2001. I use these countries' interest rates as a proxy for global rates to be consistent with previous studies that have measured states' credit worthiness (Mauro et al., 2006; Dincecco, 2009; Shea, 2013a).

Control Variables

Besides examining the impact of credit costs on war outcomes, the subsequent statistical models will control for a number of variables that may affect both the dependent variable (conflict initiation) and the main explanatory variable of interest (interest rates). To begin, I use a measure for military capacity, *Capabilities*, which combines COW National Material Capabilities (v4.0) data on energy, military troops, industrial production, and urban population. Given the left skewed nature of this measure, I take the natural log of the capabilities measure.

Besides capabilities, I also include *Quality of Capabilities* to capture technological and overall quality military advantages. This measure is a ratio of military expenditures per military personnel (Reiter and Stam, 1998). This measure is also left skewed, thus, I take the nature log.

I also include a number of political variables into the conflict models. First, I include the *Polity* measure to control for regime type (Marshall and Jaggers, 2010). While normally an ordinal measure, I recode *Polity* into regime dummies. States with a *Polity* score greater than or equal to 6 are coded as *Democracy*, while states with Polity scores less than or equal to -6 are coded as *Autocracy*. I also include a measure to control for regime stability. *Regime Tenure* measures, in years, how long a regime has been in existence. The expectation is the longer a regime has been in existence, the less likely it will engage in diversionary behavior and initiate conflict. McGillivray and Smith (2008) argue that longer lasting and more stable regimes should receive better terms of credit. Therefore, I include *Regime Tenure* as a control to avoid omitted variable bias.

I include four variables to account for a state's threat environment. I expect that states with higher threat environments will be more likely to enter conflict. In addition, states with higher threat environments may make sovereign investors

more wary.[2] The first threat environment measure is simply the number of rivals a state has in a given year. Rivalry data are taken from Diehl et al. (2006). I expect that the more rivals a state has, the more likely it will initiate conflict. Second, I include *Number of Neighbors* as a control. *Number of Neighbors* is measured as the number of states sharing a border with a given state or are within 150 miles across water. Data are taken from the Correlates of War Project Direct Contiguity Data, 1816-2006, Version 3.1. I expect that as the number of neighbors increases, states have more opportunities to initiate conflict.

In addition, I use an alternative threat environment measure taken from Leeds and Savun (2007). The measure accounts for each state's politically relevant environment, which is made up of major powers and contagious states. States in the political relevant environment without alliances in a given state and an S-score lower than the median are considered potential threats.[3] The capabilities score for each threat is summed to give us a *Threat Index*. In addition, I include the measure *Threat Change* that accounts for changes in the *Threat Index*. I expect that positive changes in the threat environment will make states more likely to initiate conflict.

The models attempt to account for a state's financial health and development. I include a *Gold Standard* dummy variable to indicate whether a state was adhering to the gold standard in a given year. I expect that states that remain on a gold standard are in good financial health, consistent with previous studies (Dincecco, 2009; Obstfeld and Taylor, 2003). A state is coded as one if a state was pegged to a gold system, and coded as zero otherwise, drawing on data from Messiner (2005).

I also include a measure to indicate whether a state has a central bank. Central banks help states make commitments to repay their debt obligations, and are particularly important during wars (Poast, 2013). Central banks help states obtain better

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[2] Evidence from Chapter 4 suggests that this may not be not true, at least for all periods of time.

[3] See Signorino and Ritter (1999) for more information S-score. In sum, it is a measure of states' foreign policy similarities.

terms of credit, but it also helps states mobilize for war more effectively. Therefore, states with central banks may be more likely to initiate conflict.

I also include a measure for a state's trade exports for two reasons. First, levels of exports can indicate a country's economic performance. Second, and more importantly to the models, exports are a mechanism that allows domestic economies to capture foreign currency, which eases the burden of debt repayment (and may affect credit worthiness). Trade data are taken from the Correlates of War data set project (Barbieri et al., 2009).

Finally, I include *Peace Years*, which indicates how long since a state has been in a militarized dispute.[4] I expect that states recently in conflict will be more likely to enter conflict again. Following Carter and Signorino (2010), I use the squared and cubed value of *Peace Years* to account for the temporal dependence in the models. Summary statistics of all variables can be found in Table 5.11 in the Appendix of this chapter.

5.2 Results

Model 1 in Table 5.1 is a baseline random effects logit model of conflict initiation for all states that have interest rate data. It should be noted that both *Democracy* and *Autocracy* predict a lower likelihood for conflict initiation. This potentially contradicts the existing literature, which has yet to reach a consensus on the monadic relationship between regime type and conflict initiation. This may suggest that my sample of states with interest rates has a selection bias. In later model specifications, I address these selection issues.

Model 2 includes the explanatory variable of interest, *Interest Rates* (lagged by one year), and finds no significant relationship between the costs of borrowing and conflict initiation. Model 3 includes interactions between *Interest Rates* and

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[4] If a state never experienced conflict, then this variable counts the number of years since it entered the data.

Table 5.1: Logit Examining Credit Costs' Affect on Conflict Initiation, 1816-2001

| | Initiate MID | | | Initiate Fatal MID | |
	Model 1	Model 2	Model 3	Model 4	Model 5
	β /(SE)	β/(SE)	β/(SE)	β/(SE)	β/(SE)
Interest Rate (L)		-0.02	-0.04	-0.06	-0.02
		(0.03)	(0.04)	(0.06)	(0.15)
IR*Democracy			0.07		0.16
			(0.08)		(0.29)
IR*Autocracy			0.03		-0.06
			(0.08)		(0.16)
Democracy	-0.41*	-0.41*	-0.54*	-1.73***	-1.99**
	(0.16)	(0.16)	(0.22)	(0.45)	(0.69)
Autocracy	-0.42*	-0.43*	-0.49	-0.64	-0.52
	(0.18)	(0.18)	(0.26)	(0.39)	(0.54)
ln(Capabilities)	0.32***	0.32***	0.32***	0.74***	0.76***
	(0.07)	(0.07)	(0.07)	(0.18)	(0.19)
ln(Quality of Capabilities)	0.11**	0.10**	0.10**	0.04	0.05
	(0.04)	(0.04)	(0.04)	(0.10)	(0.10)
Rivals	0.51***	0.51***	0.51***	0.17*	0.17*
	(0.05)	(0.05)	(0.05)	(0.08)	(0.08)
Gold Standard	-0.21	-0.22	-0.22	-0.29	-0.25
	(0.16)	(0.16)	(0.16)	(0.37)	(0.38)
Exports	0.00	0.00	0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Num. of Neighbors	0.01	0.01	0.01	0.04	0.04
	(0.03)	(0.03)	(0.03)	(0.06)	(0.06)
Central Bank	-0.28	-0.28	-0.31	-0.51	-0.52
	(0.16)	(0.16)	(0.16)	(0.40)	(0.41)
Regime Tenure	-0.00	-0.00	-0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Threat Index	0.69*	0.68*	0.66	-0.91	-0.91
	(0.34)	(0.34)	(0.34)	(0.83)	(0.84)
Threat Change	-0.07**	-0.07**	-0.07**	0.05	0.05
	(0.02)	(0.02)	(0.02)	(0.09)	(0.09)
Peace Years	-0.10***	-0.10***	-0.10***	-0.01	-0.01
	(0.02)	(0.02)	(0.02)	(0.08)	(0.08)
Peace Years ^{2}	0.00**	0.00**	0.00**	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Peace Years ^{3}	-0.00	-0.00	-0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.03	0.08	0.14	0.21	0.12
	(0.48)	(0.48)	(0.49)	(1.03)	(1.12)
$\ln(\sigma_u^2)$	-0.96**	-0.96**	-0.98**	0.01	0.04
	(0.34)	(0.35)	(0.35)	(0.60)	(0.59)
Log Likelihood	-1350.0***	-1349.8***	-1349.5***	-277.1***	-276.8***
AIC	2733.9	2735.6	2738.9	590.2	593.6
N	2954	2954	2954	2954	2954

$*** p < 0.001$; $** p < 0.01$; $* p < 0.05$; Random Effects Models;
β = Coefficient Estimates; (SE)=Robust Standard Errors; (L)= Lagged

regime types. In previous work I find that the price of credit is more important for democracies than non-democracies in determining war outcomes (Shea, 2013a). In addition, the evidence from Chapter 4 suggests that credit markets respond more favorably to democracies in conflict than non-democracies. Therefore, it is possible that interest rates have a heterogenous effect on conflict initiation by regime type. However, model 3 finds no evidence that this is the case.

Models 4 and 5 replicate models 2 and 3 using fatal disputes as the dependent

variable. There is concern that the MID data is too heterogenous, since the coding scheme has a low threshold for disputes.[5] By only examining MIDs with at least twenty-five fatalities, fatal MIDs should provide a more homogenous measure. However, the results in models 4 and 5 are similar to models 2 and 3.

5.2.1 Alternative Models

Thus far, the empirical models show no evidence to support the hypothesis that high credit prices decrease the propensity of conflict. However, the interest rate data is not available for all state years. Missing data could suggest that a state could not access credit, which then could influence decisions to initiate conflict. To address this issue, I take two different strategies. First, I recode the explanatory variable of interest. Second, I utilize selection models.

The first recoding effort assumes that missing data can inform us about a state's credit access. States with interest rate information obviously have accessed the credit market, while states without data may not have. Given this, I create a new variable, *Credit Access*, that is coded as one when a state has interest rate data and zero otherwise. I substitute this variable for interest rates into the models in Table 5.2, but find similar results as the results in Table 5.1 with one exception. In model 5, the interaction term of credit access and democracy is statistically significant, but this is not a true indication of the significance of interaction effects in a logit model (Brambor et al., 2006; Ai and Norton, 2003). To determine the substantive effect, I first look at the predicted probabilities of the interaction. Holding all other covariates at their mean values, I examine the probability of a fatal MID initiation for both democracies and autocracies given a change in credit access. For both regime types, access to credit lowers the probability initiating a fatal MID. This directly contradicts the notion that credit drives state to initiate conflict. In addition, from

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[5] For example, fishing disputes can be coded as MIDs.

the confidence intervals reported in Table 5.3, we can see that there is no statistical difference between the predicted probabilities from regimes with credit access and regimes without. This does not necessarily contradict the results in Table 5.2. The predicted probabilities in Table 5.3 are for a specific case: a state with mean values for all covariates. For logistic regressions, the effect of a specific variable (or the effect of the interaction of two variables) is conditional on the values of the other covariates. This complicates the inferences for interaction terms in Table 5.2. To clarify the substantive effects of the variables of interest, I graph the marginal effects of credit access on regime type, conditional on one covariate: military capabilities. Figure 5.1 shows the marginal effects of the change in credit access for both democracies and autocracies. For both autocracies and democracies, the marginal effect is only significant for a limited range of capabilities, and even then, the substantive effect is small.

(a)   (b)
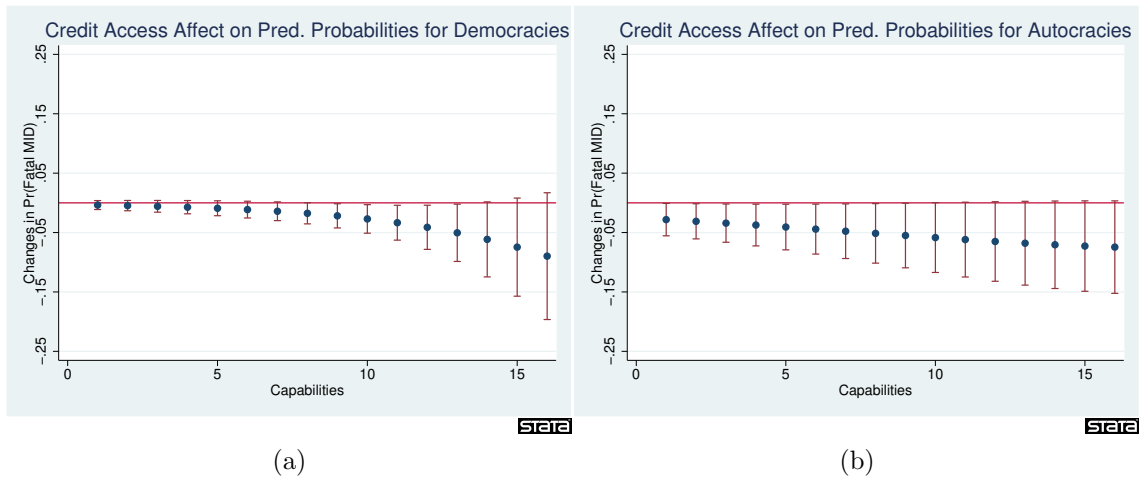
Figure 5.1: Credit Access and Conflict Initiation

It is not surprising that *Credit Access* is a mostly a non-significant factor in explaining conflict initiation given that it is a crude measure. The states that are coded as having credit access are a heterogeneous group, with some states receiving favorable credit access while others are not. In addition, the *Interest Rates* variable only measures the market performance of a states' existing lending securities. It is

Table 5.2: Logit Examining Credit Access Affect on Conflict Initiation, 1816-2001

		Initiate MID		Initiate Fatal MID	
	Model 1	Model 2	Model 3	Model 4	Model 5
	β /(SE)	β/(SE)	β/(SE)	β/(SE)	β/(SE)
Credit Access		-0.07	-0.05	-0.27	0.00
		(0.10)	(0.13)	(0.26)	(0.33)
CA*Democracy			-0.08		-1.30**
			(0.19)		(0.48)
CA*Autocracy			0.02		0.08
			(0.19)		(0.42)
Democracy	-0.25*	-0.24*	-0.21	-0.40	0.18
	(0.10)	(0.10)	(0.13)	(0.25)	(0.31)
Autocracy	-0.22**	-0.23**	-0.22*	-0.16	-0.11
	(0.08)	(0.08)	(0.09)	(0.20)	(0.24)
ln(Capabilities)	0.11**	0.12**	0.12**	0.27***	0.28***
	(0.04)	(0.04)	(0.04)	(0.08)	(0.08)
ln(Quality of Capabilities)	0.05*	0.05*	0.05*	-0.08	-0.07
	(0.02)	(0.02)	(0.02)	(0.06)	(0.06)
Rivals	0.72***	0.72***	0.72***	0.20***	0.21***
	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)
Gold Standard	-0.09	-0.09	-0.09	-0.15	-0.09
	(0.13)	(0.13)	(0.13)	(0.30)	(0.30)
Exports	0.00	0.00	0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Num. of Neighbors	0.02	0.02	0.02	-0.02	-0.02
	(0.02)	(0.02)	(0.02)	(0.04)	(0.04)
Central Bank	0.07	0.07	0.07	0.20	0.19
	(0.08)	(0.08)	(0.08)	(0.20)	(0.20)
Regime Tenure	-0.00*	-0.00*	-0.00*	-0.01*	-0.01*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Threat Index	0.65**	0.63**	0.62**	0.67	0.62
	(0.23)	(0.23)	(0.23)	(0.53)	(0.53)
Threat Change	-0.02*	-0.02*	-0.02*	0.02	0.02
	(0.01)	(0.01)	(0.01)	(0.06)	(0.06)
Peace Years	-0.06***	-0.06***	-0.06***	-0.05*	-0.05*
	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)
Peace Years ^{2}	0.00***	0.00***	0.00***	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Peace Years ^{3}	-0.00***	-0.00***	-0.00***	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	-1.14***	-1.04**	-1.05**	-1.53*	-1.70*
	(0.32)	(0.35)	(0.35)	(0.74)	(0.75)
$\ln(\sigma_u^2)$	-1.02***	-1.04***	-1.05***	-0.23	-0.22
	(0.18)	(0.19)	(0.19)	(0.30)	(0.30)
Log Likelihood	-3820.4***	-3820.1***	-3820.0***	-877.6***	-873.1***
AIC	7674.8	7676.3	7680.0	1791.2	1786.3
N	8033	8033	8033	8033	8033

$* * * p < 0.001; * * p < 0.01; * p < 0.05$; Random Effects Models;
β = Coefficient Estimates; (SE)=Robust Standard Errors; (L)= Lagged

Table 5.3: Predicted Probability of Fatal MID Initiation

	Democracies	Autocracies
Access	0.0108	0.0129
	[0.005–0.017]	[0.006–0.020]
No Access	0.0181	0.0217
	[0.007–0.029]	[0.013–0.030]

Derived from Model 5 in Table 5.2

95% Confidence Intervals in []
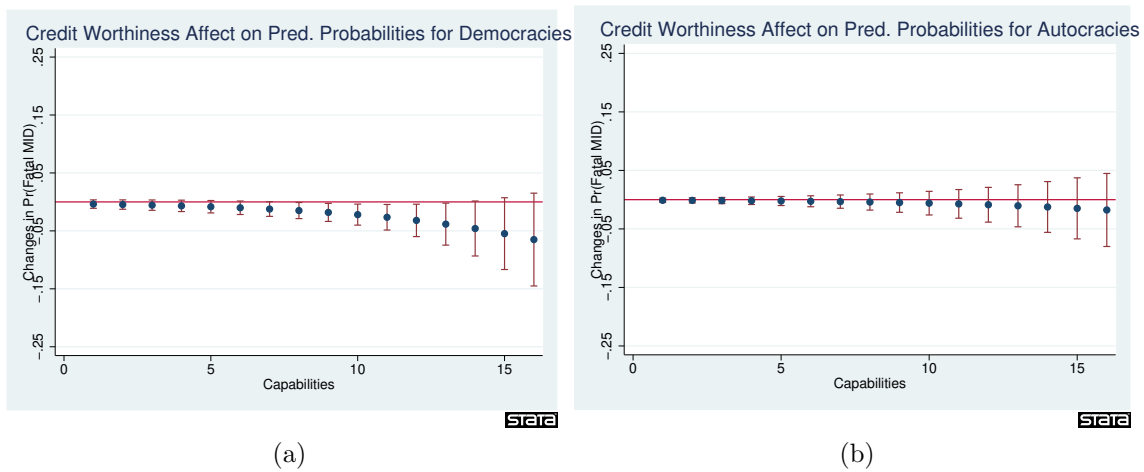
Figure 5.2: Credit Worthiness and Conflict Initiation

reasonable to assume that states with high market rates will have difficulty accessing sovereign credit markets in the future. To reduce the heterogeneity in the *Credit Access* measure, I create a new variable, *Credit Worthy*. A state is coded as credit worthy if it has interest rate data and if that state's interest rate is equal to or less than the market average. States with higher than average interest rates or with missing interest rate data are coded as zero.

I substitute *Credit Worthy* into the models in Table 5.4. The models (2 and 3) using MIDs as a dependent variable still do not produce statistically significant results for the credit variable. Model 4 examines Fatal MIDs, but *Credit Worthy* is still not significant. In model 5, there is a significant coefficient for the interaction between credit worthiness and democracy. Table 5.5 examines this interaction further, detailing the predicted probability of conflict initiation conditional on credit worthiness. Again, the predicted probabilities reveal no statistical difference for states with covariates held at their mean values. Figure 5.2 shows the marginal effects of the change in credit worthiness for both democracies and autocracies. For autocracies, we see no effect (the confidence intervals always overlap with zero marginal effects). For democracies, the marginal effect is only significant for a limited range of capabilities and the substantive effect is small.

Table 5.4: Logit Examining Credit Worthi-
ness Affect on Conflict Initiation, 1816-2001

| | | Initiate MID | | Initiate Fatal MID | |
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 |
	β /(SE)	β/(SE)	β/(SE)	β/(SE)	β/(SE)
Credit Worthy		-0.11	0.04	-0.11	0.07
		(0.11)	(0.14)	(0.26)	(0.34)
CW*Democracy			-0.34		-1.37**
			(0.19)		(0.50)
CW*Autocracy			-0.16		0.53
			(0.21)		(0.46)
Democracy	-0.25*	-0.24*	-0.13	-0.41	0.05
	(0.10)	(0.10)	(0.11)	(0.25)	(0.28)
Autocracy	-0.22**	-0.22**	-0.19*	-0.14	-0.20
	(0.08)	(0.08)	(0.09)	(0.19)	(0.22)
ln(Capabilities)	0.11**	0.12***	0.12***	0.25**	0.26**
	(0.04)	(0.04)	(0.04)	(0.08)	(0.08)
ln(Quality of Capabilities)	0.05*	0.05*	0.05*	-0.07	-0.07
	(0.02)	(0.02)	(0.02)	(0.06)	(0.06)
Rivals	0.72***	0.72***	0.72***	0.21***	0.22***
	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)
Gold Standard	-0.09	-0.08	-0.09	-0.13	-0.09
	(0.13)	(0.13)	(0.13)	(0.31)	(0.31)
Exports	0.00	0.00	0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Num. of Neighbors	0.02	0.02	0.02	-0.01	-0.01
	(0.02)	(0.02)	(0.02)	(0.04)	(0.04)
Central Bank	0.07	0.07	0.06	0.19	0.17
	(0.08)	(0.08)	(0.08)	(0.20)	(0.20)
Regime Tenure	-0.00*	-0.00*	-0.00*	-0.01*	-0.01
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Threat Index	0.65**	0.64**	0.60**	0.71	0.63
	(0.23)	(0.23)	(0.23)	(0.53)	(0.54)
Threat Change	-0.02*	-0.02*	-0.02*	0.01	0.02
	(0.01)	(0.01)	(0.01)	(0.05)	(0.06)
Peace Years	-0.06***	-0.06***	-0.06***	-0.05*	-0.05*
	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)
Peace Years ^{2}	0.00***	0.00***	0.00***	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Peace Years ^{3}	-0.00***	-0.00***	-0.00***	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	-1.14***	-1.05**	-1.06**	-1.84**	-1.91**
	(0.32)	(0.33)	(0.33)	(0.67)	(0.68)
$\ln(\sigma_u^2)$	-1.02***	-1.05***	-1.08***	-0.19	-0.14
	(0.18)	(0.18)	(0.19)	(0.30)	(0.29)
Log Likelihood	-3820.4***	-3819.8***	-3818.3***	-878.1***	-871.6***
AIC	7674.8	7675.7	7676.6	1792.2	1783.3
N	8033	8033	8033	8033	8033

$***p < 0.001; **p < 0.01; *p < 0.05$; Random Effects Models;
β = Coefficient Estimates; (SE)=Robust Standard Errors; (L)= Lagged

Table 5.5: Predicted Probability of Fatal MID Initiation

	Democracies	Autocracies
Credit Worthy	0.0114	0.0141
	[0.005–0.018]	[0.006–0.023]
Not Credit Worthy	0.0168	0.0208
	[0.006–0.028]	[0.013–0.029]

Derived from Model 5 in Table 5.4

95% Confidence Intervals in []

The lack of support for the assertion that credit access or low credit prices make conflict more likely is not surprising, but it is also not definitive. The models in Tables 5.2 and 5.4 try to leverage missing interest rate data. However, the measures in those models assume that missing data is informative about either a state's credit access or credit worthiness. There are many reasons why states may have missing interest rate data. For example, the *Credit Access* measure assumes that missing data indicates that a state cannot access credit. However, it is possible that poor accounting records leads to this missing data. Chapter 2 details the credit advantage of Austria during the first part of the 19th century. However, reliable annual interest data is not available for Austria until the 1860s (about the time that Austria lost its credit advantage). While some of Austria's loans were floated in London markets, others were floated in Paris or Vienna, where historical data did not survive for usage in modern financial databases.

Instead of assuming that credit access and worthiness are homogenous measures, I model the credit selection process using simultaneous equations, specifically selection models. Using Heckman probit models, states' proclivity to have interest rates are modeled, and then their proclivity to initiate conflict is modeled. The outcome model is the same as the conflict models above. The selection models share most of the same covariates as the outcome model, given that I assume that states expecting to be engaged in conflict have incentives to acquire credit.[6] In addition, I include economic variables: *GDP, GDP per capita,* and *Resource Revenue.* I expect that states with larger economies (measured by *GDP*) and wealthier economies (measured by *GDP per capita*) to be more likely to acquire credit, and therefore, should be more likely to have interest rate data.[7] In addition, I include *Resource Revenue*

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[6] This does not contradict my assertion that credit does not affect decisions to enter conflict. Instead, I am arguing that states prone to conflict will be more likely to attempt to acquire credit. In a working paper with Paul Poast, we find that states that are likely to go to war have incentives to avoid debt default because credit is important to managing a war effort (Shea and Poast, 2013).

[7]I expect that *GDP* and *GDP per capita* to have marginally diminishing effects (i.e. each additional dollar will have less marginal effect on the probability of having credit access). Therefore,

in the selection model, which is the amount of money a government receives from natural resources as a per cent of its GDP. I expect that states with higher natural resource revenues will have less demand for sovereign credit. Data on these three measures are taken from Haber and Menaldo (2011).

Table 5.6 shows the results of the selection models. Model 1 shows that interest rates still do not affect the proclivity to initiate conflict, even when modeling the credit selection process. Model 2 finds no interaction effect between regime types and interest rates. However, models 1 and 2 are under-specified, since the selection models do not include an instrument. Heckman models, in order to be correctly specified, need an instrumental variable in the selection model that can help predict selection but does not affect the outcome (i.e. conflict initiation). While I do include three additional variables in the selection process, an argument can be made that these variables may also affect a state's propensity for conflict.

To rectify this problem, I include the measure *Population 65* in models 3 and 4. This variable measures the percentage of population that is over the age of 65 in a state in a give year.[8] I argue that the higher this percentage, the longer the time horizons of a state's citizens. Citizens in states with higher percentages of people over 65 have incentives to save in order to have available resources for when a person is not able or willing to work for income. Therefore, higher percentages of older populations should be correlated with higher the national savings rates. Higher savings rate provides a potential source of domestic sovereign credit for governments, increasing the probability that a state can acquire credit. As the results show, *Population 65* is a significant predictor of the credit selection process, but interest rates and its interactions in models 3 and 4 are still not significant.

The next robustness check examines the role of credit in conflict escalation. In Chapter 4, the event study analysis demonstrates that sovereign credit markets are

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I take the natural log of these two variables.

[8] Data taken from UN Statistics Division on Elderly Population Data.

Table 5.6: Heckman Selection Models, 1816-2001

	Model 1	Model 2	Model 3	Model 4
	β /(SE)	β/(SE)	β/(SE)	β/(SE)
Equation 1: Outcome				
	Model 1	Model 2	Model 3	Model 4
Interest Rate (L)	0.02	0.02	0.04	-0.11
	(0.04)	(0.03)	(0.09)	(0.07)
IR*Democracy		0.07		0.24
		(0.11)		(0.14)
IR*Autocracy		-0.03		0.09
		(0.04)		(0.09)
ln(Capabilities)	0.29***	0.30***	0.32***	0.33***
	(0.09)	(0.09)	(0.08)	(0.08)
ln(Quality of Capabilities)	0.06	0.06	0.15*	0.11
	(0.03)	(0.04)	(0.07)	(0.07)
Rivals	0.22***	0.23***	0.36***	0.36***
	(0.05)	(0.05)	(0.07)	(0.07)
Democracy	-0.18	-0.29	-0.18	-0.54
	(0.19)	(0.30)	(0.24)	(0.35)
Autocracy	-0.60**	-0.55*	-0.26	-0.42
	(0.20)	(0.21)	(0.27)	(0.33)
Exports	0.00	0.00	-0.00*	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Num. of Neighbors	-0.02	-0.02	-0.02	-0.02
	(0.03)	(0.03)	(0.03)	(0.03)
Central Bank	-0.13	-0.13	-0.01	0.02
	(0.11)	(0.11)	(0.13)	(0.13)
Regime Tenure	-0.00	-0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Threat Index	0.11	0.10	-1.33***	-1.45***
	(0.21)	(0.22)	(0.32)	(0.30)
Threat Change	-0.04**	-0.04**	-0.04**	-0.04**
	(0.01)	(0.01)	(0.01)	(0.01)
Peace Years	-0.05***	-0.05***	-0.08***	-0.08***
	(0.01)	(0.01)	(0.02)	(0.02)
Peace Years ^{2}	0.00**	0.00**	0.00**	0.00***
	(0.00)	(0.00)	(0.00)	(0.00)
Peace Years ^{3}	-0.00	-0.00	-0.00*	-0.00*
	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.42	0.47	0.17	0.79
	(0.56)	(0.59)	(0.82)	(0.90)
Equation 2: Selection				
Population 65			0.19***	0.19***
			(0.05)	(0.05)
Resource Revenue	-3.23*	-3.23*	0.16	0.16
	(1.30)	(1.30)	(0.73)	(0.73)
ln(GDP)	-0.27	-0.27	0.48	0.49
	(0.20)	(0.20)	(0.27)	(0.27)
ln(GDP per capita)	0.56***	0.56***	-0.19	-0.19
	(0.16)	(0.16)	(0.22)	(0.22)
ln(Capabilities)	0.68***	0.68***	-0.05	-0.05
	(0.18)	(0.18)	(0.25)	(0.25)
ln(Quality of Capabilities)	-0.16*	-0.16*	-0.09	-0.09
	(0.07)	(0.07)	(0.10)	(0.10)
Rivals	-0.05	-0.05	-0.06	-0.06
	(0.05)	(0.05)	(0.08)	(0.08)
Democracy	0.36	0.36	-0.08	-0.08
	(0.24)	(0.24)	(0.23)	(0.23)
Autocracy	-0.91***	-0.91***	-1.12***	-1.11***
	(0.20)	(0.20)	(0.25)	(0.25)
Exports	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Num. of Neighbors	-0.05	-0.05	-0.05	-0.05
	(0.04)	(0.04)	(0.05)	(0.05)
Central Bank	0.14	0.14	0.41	0.41
	(0.23)	(0.23)	(0.24)	(0.24)
Regime Tenure	0.01***	0.01***	0.02**	0.02**
	(0.00)	(0.00)	(0.01)	(0.01)
Threat Index	-0.14	-0.14	-1.60	-1.60
	(0.47)	(0.48)	(0.97)	(0.97)
Threat Change	0.00	0.00	0.01	0.01
	(0.01)	(0.01)	(0.01)	(0.01)
Peace Years	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Constant	7.15	7.13	-11.32	-11.41
	(4.91)	(4.92)	(6.71)	(6.73)
Log Likelihood	-3112.8***	-3112.0***	-1476.1***	-1474.2***
AIC	6291.6	6293.9	3020.1	3020.3
N	6395	6395	4378	4378

$* * * p < 0.001; * * p < 0.01; * p < 0.05$
β = Coefficient Estimates; (SE)=Robust Standard Errors; (L)= Lagged

wary of states that escalate their conflicts. However, it is possible that access to inexpensive credit emboldens states to escalate their disputes with other states. To

test the validity of that assertion, I examine of sample of conflict years to see if states escalate their conflicts. To measure escalation, I create a binary dependent variable that indicates if the conflict escalate to the use of force (using COW data for coding purposes). Model 1 is Table 5.7 is the baseline model for escalation. Model 2 includes the *Interest Rate* measure, and finds no statistical significant result. Model 3 includes the interaction between interest rates and regime types, and again finds no significance.

Table 5.7: Logit Examining Credit and Escalation, 1816-2001

	Model 1	Model 2	Model 3
	β /(SE)	β/(SE)	β/(SE)
	Model 1	Model 2	Model 3
Interest Rate (L)		0.05	-0.03
		(0.05)	(0.06)
IR*Democracy			0.16
			(0.12)
IR*Autocracy			0.18
			(0.13)
ln(Capabilities)	0.02	0.04	0.03
	(0.08)	(0.08)	(0.08)
ln(Quality of Capabilities)	0.06	0.07	0.07
	(0.05)	(0.05)	(0.05)
Rivals	0.24***	0.23***	0.23***
	(0.05)	(0.05)	(0.05)
Democracy	-0.74***	-0.74***	-1.06***
	(0.22)	(0.22)	(0.31)
Autocracy	-0.16	-0.16	-0.57
	(0.24)	(0.24)	(0.36)
Gold Standard	-0.65**	-0.61**	-0.60**
	(0.22)	(0.22)	(0.22)
Exports	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)
Num. of Neighbors	-0.03	-0.04	-0.04
	(0.03)	(0.03)	(0.03)
Central Bank	0.27	0.28	0.24
	(0.19)	(0.19)	(0.20)
Regime Tenure	-0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)
Threat Index	-0.03	-0.02	-0.08
	(0.41)	(0.41)	(0.41)
Threat Change	-0.00	-0.00	-0.00
	(0.01)	(0.01)	(0.01)
Peace Years	-0.12***	-0.12***	-0.12***
	(0.03)	(0.03)	(0.03)
Peace Years ^{2}	0.00***	0.00***	0.00***
	(0.00)	(0.00)	(0.00)
Peace Years ^{3}	-0.00*	-0.00*	-0.00*
	(0.00)	(0.00)	(0.00)
Constant	0.72	0.61	0.79
	(0.55)	(0.57)	(0.58)
$\ln(\sigma_u^2)$	-1.29*	-1.26*	-1.28*
	(0.51)	(0.51)	(0.52)
Log Likelihood	-710.8***	-710.3***	-708.5***
AIC	1455.6	1456.5	1457.0
N	1189	1189	1189

$* * * p < 0.001; * * p < 0.01; * p < 0.05$; Random Effects Models
β = Coefficient Estimates; (SE)=Robust Standard Errors; (L)= Lagged

In the previous chapter, I demonstrated that conflict can affect the preferences of investors, conditional on the likelihood of conflict escalation. In the event study analysis models, I test whether investors anticipate conflict. I find minimal evidence that this is the case, except for states that are habitually in conflict. However, even with the lack of evidence of conflict anticipation in the sovereign credit market, there are potential endogeneity problems for the models in this chapter. Since credit worthiness is non-random, the effects of credit costs may be biased given that the causal variable of interest is potentially non-ignorable.[9] There are several ways to address this problem. First, explanatory variables of interest can be lagged so that a clear temporal order is established. Given this, the interest rate variable is lagged by one year in all models.

In addition, I can model the costs of credit as being conditionally ignorable. In order to do so, I control for confounders that block the "back-door" of alternative causal paths. Pearl (2000) uses a "back-door" analogy to demonstrate that the causal effect between an explanatory variable, X, and outcome variable, Y, is unidentified if there exists a confounding variable, C, that affects both X and Y. However, if one controls for C, the "back-door" path for X is blocked, and X's causal effect on Y can be identified (Pearl, 2000; Morgan and Winship, 2007). Given this, I include variables in all models in this chapter that could possibly affect conflict initiation and interest rates.

The limitation of modeling conditional ignorability is the reliance on observable factors. It is possible that interest rates are a function of non-observable (or at least non-measurable) factors such as resolve or reputation. We can attempt to capture these non-observables with proxy variables, but we cannot ensure complete ignorability without random assignment.

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[9] Ignorability is the assumption that the explanatory variable's distribution (or assignment) is independent of the outcome variable.

A strategy to attempt to identify the causal effects of interest rates is to instrument the possible endogenous regressors. An instrumental variable is an exogenous source of variance that only effects the dependent variable (conflict initiation) by way of the causal variable of interest (interest rates). In order to be a valid instrument, the variable cannot be correlated with any other determinant of Y. The exogenous component of the instrument can help estimate the causal effects of the explanatory variable of interest. Given this, I attempt to instrument interest rates by using a proxy for the global interest rate.[10] I argue that the global interest rate should not affect the initiation of conflict on its own, but only throughout its effect on states' interest rates.[11]

Table 5.8 shows the results of the instrumental strategy. Model 1 examines whether the instrumented interest rate variable explains MID initiation. Models 2 and 3 split the sample by democracies and autocracies, respectively, to determine whether there is a conditional causal effect.[12] Note that the Wald test of exogeneity fails to reject the null hypothesis that the residuals from the structural model (i.e. the probit model) are correlated with the residuals from the instrumental model. A strict interpretation of this test suggests that an instrument is not necessary for these

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[10] The proxy used for the global interest rate is Great Britain's interest rate from 1816 - 1913 and the United States' interest rate from 1914-2001. I use these countries' interest rates as a proxy for global rates to be consistent with previous studies (Mauro et al., 2006; Dincecco, 2009). The United States and Great Britain are excluded from the instrumental variable models, given that the exclusion restriction obviously does not apply to them.

[11] It is estimated that 25 per cent of the variation in individual state's interest rates are a result of the variation in the global rate (Homer and Sylla, 2005). If states' interest rates were completely determined with global interest rates, we could treat the instrumental strategy as if the causal effects were randomly assigned. Since the effect here is only partially determined by the global interest rate, the instrumental variable of this design can only generate an intent to treat estimate. In other words, there is uncertainty whether the state actually receives the "treatment" (i.e. whether changes in the global rate actually affect the state's interests rates). We can only infer that the state was selected to receive the treatment. The analogy would be randomizing disbursement of a treatment medication and a placebo. If we do not observe subjects actually administering the medication, we can only infer that they were selected to be treated, not that they complied with the treatment. This subtle difference means that inferences from the instrumental models must assume that subjects complied with the treatment.

[12] Using interaction terms and instrumental variables is a precarious approach, thus I rely on the more straightforward split-sample strategy.

models, although it is indeterminate whether the Wald test is result of exogeneity or a lack of causal effects.

Table 5.8: Instrumental Variable Probit Models, 1816-2001

	MID			Fatal MID		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Full Sample	Democracies	Autocracies	Full Sample	Democracies	Autocracies
	β /(SE)	β/(SE)	β/(SE)	β/(SE)	β/(SE)	β/(SE)
Interest Rate (IV)	0.02	0.02	0.02	-0.11***	-0.16***	-0.14***
	(0.03)	(0.03)	(0.04)	(0.03)	(0.04)	(0.03)
Democracy	-0.34*			-0.22		
	(0.15)			(0.18)		
Autocracy	-0.10			-0.10		
	(0.12)			(0.14)		
ln(Capabilities)	0.12	0.11	-0.06	-0.05	-0.15*	-0.08
	(0.06)	(0.08)	(0.06)	(0.07)	(0.07)	(0.09)
ln(Quality of Capabilities)	0.06*	-0.01	0.14***	-0.04	-0.11	-0.08
	(0.02)	(0.03)	(0.04)	(0.05)	(0.09)	(0.07)
Rivals	0.21***	0.17***	0.52***	0.13*	0.06	0.22
	(0.05)	(0.04)	(0.07)	(0.05)	(0.05)	(0.16)
Gold Standard	0.24*	0.30	0.54	-0.38***	-0.23*	-0.62***
	(0.11)	(0.18)	(0.38)	(0.09)	(0.11)	(0.17)
Exports	0.00	0.00*	-0.00	-0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Num. of Neighbors	0.01	0.02	0.02	0.01	0.02	0.08
	(0.02)	(0.02)	(0.03)	(0.02)	(0.04)	(0.05)
Central Bank	-0.01	-0.14	0.03	-0.11	0.10	-0.22
	(0.10)	(0.18)	(0.17)	(0.15)	(0.18)	(0.28)
Regime Tenure	-0.00	0.00	0.01	-0.00	0.00	-0.01
	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)
Threat Index	0.29	0.62	-0.04	-0.61	-0.52	-0.45
	(0.19)	(0.32)	(0.53)	(0.33)	(0.32)	(0.58)
Threat Change	-0.03*	-0.03	0.14	0.04	0.27**	0.22
	(0.01)	(0.02)	(0.22)	(0.09)	(0.09)	(0.16)
Peace Years	-0.06***	-0.07***	0.08	-0.04	-0.07**	-0.20
	(0.01)	(0.02)	(0.17)	(0.02)	(0.03)	(0.12)
Peace Years ^{2}	0.00***	0.00**	-0.02	0.00	0.00	0.05*
	(0.00)	(0.00)	(0.04)	(0.00)	(0.00)	(0.02)
Peace Years ^{3}	-0.00	-0.00*	0.00	0.00	-0.00	-0.00*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	-0.95***	-0.88	-3.09***	-0.31	-0.36	0.38
	(0.27)	(0.47)	(0.67)	(0.49)	(0.52)	(0.91)
Wald Test of Exog.	0.698	0.930	0.771	0.008***	0.000***	0.000***
Log Likelihood	-10529.6	-4769.4	-1476.2	-9633.1	-4325.0	-1359.7
AIC	21131.2	9602.8	3000.4	19338.2	8714.0	2769.4
N	2954	1465	396	2954	1465	396

$***p < 0.001; **p < 0.01; *p < 0.05;$
β = Coefficient Estimates; (SE)=Robust Standard Errors; (L)= Lagged
Instrument: Global Interest Rate

Model 4 examines the initiation of fatal MIDs using the instrumental strategy. Contrary to the MID models, the instrumented causal variable is significant. The coefficients show that the better terms of credit (i.e. lower interest rates) decreases the probability of fatal conflict initiation. Instead of credit having a constraining effect on states with high interest rates, the opposite effect holds true. The Wald test of exogeneity is now significant, suggesting that an instrument is appropriate for

these models. I also run a Cragg-Donald Wald test to determine whether the global interest rate is a weak instrument (Cragg and Donald, 1993). Weak instruments introduce bias to models, effectively undermining the utility of an instrumental approach. I find no evidence that global interest rate instrument is a weak instrumental variable.[13] Models 5 and 6 split the sample again by regime types, and finds that democracies and autocracies are both statistically significant.

The last robustness check examines dyadic conflict relationships. It is possible that credit does not provide a state an absolute (or monadic) incentives to initiate conflict, but rather relative incentives to initiate conflict. If a state's access to inexpensive credit gives a state an advantage in a particular dyad over another state, this effect may be masked in a monadic model. To model credit's role in a dyadic conflict, I use a sample of directed-dyad years to determine whether states use credit advantages to deliberately initiate conflict. The dependent variable measures whether State A in the dyad initiates conflict against State B.[14] To capture a state's credit advantage, I create the measure *Interest Rate Advantage*, which is merely state A's interest rate divided by state B's interest rate. The lower the value of *Interest Rate Advantage*, the higher state A's credit advantage. The model also includes interest rate data for both states in a dyad given that I expect that the interest rate advantage will matter more when state A's interest rate is low.

I also include a set of dyadic control variables. I include regime dummies and *Joint* to indicate whether both states in a dyad are democratic. A distance variable is included to measure the distance (in miles) between the dyadic states (data taken from COW). An ally dummy variable in included to indicate whether the dyad has an alliance (data taken from COW) or are rivals (data taken from (Diehl et al.,

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[13]The models in Table 5.8 are estimated using the Stata (v11) program ivprobit. However, ivprobit does not test for weak instruments. Therefore, I re-estimate model 4 using ivreg2 which implements tests for weak instruments. Although ivreg2 linearly estimates the instrumental models, it produces results consistent with model 4.

[14] Dyadic MID data is taken from Maoz (2005), which relies on COW coding of MIDs.

2006)).[15] Dummy variables are also include to indicate whether the dyad are contiguous (sharing a border or within 150 sea miles from each other), whether both states have central banks, and the major-minor power status of the dyad. I also include as measure to indicate, in years, how long since the last conflict in the dyad. Also included are the dyadic trade dependency variables, which is measured by state A's (B's) exports to state B (A), divided by state A's (B's) GDP. The expectation is that trade dependency should decrease the probability of conflict initiation, though this assertion is questionable given the bargaining nature of conflict (Levy, 2003a). Summary statistics on these dyadic variables can be found in Table 5.11 in this chapter's Appendix.

Model 1 in Table 5.9 provides a baseline model of dyadic conflict. Model 2 includes the interest rate variables, and shows no evidence that credit costs advantages induces conflict in dyad. Model 3 examines whether the *Interest Rate Advantage* variable has an interaction effect on regime type, but finds no support for that assertion. Models 4 and 5 replicate the results in models 2 and 3 using the fatal MID threshold for the dependent variable. Again, there is no evidence, either in the additive or in the interaction models, that a dyadic credit advantage leads to conflict initiation.

5.2.2 Implications

The preceding empirical evidence examined whether credit costs or the selection into the credit market have had any effect on conflict initiation behavior. In sum, I find limited support that credit has any effect on conflict initiation. The only evidence to suggest otherwise shows that some states may be *less* willing to initiate conflict with lower costs of credit.

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[15] I rely on Diehl et al.'s (2006) data on rivalry instead of alternatives (such as Colaresi et al. (2007)) because it offers a conservative measure of rivalries since the coding relies on observable military conflict to establish the existence of a rivalry.

Table 5.9: Dyadic Logit Examining Credit
Costs' Affect on Conflict Initiation, 1816-2001

| | Initiate MID | | | Initiate Fatal MID | |
	Model 1	Model 2	Model 3	Model 4	Model 5
	β /(SE)	β/(SE)	β/(SE)	β/(SE)	β/(SE)
Interest Rate Adv.		0.08	-0.29	0.23	-1.79
		(0.21)	(0.40)	(0.34)	(2.62)
Interest Rate A		0.16	0.14	0.00	0.01
		(0.13)	(0.12)	(0.25)	(0.27)
Interest Rate B		-0.12	-0.15	-0.63	-0.90
		(0.14)	(0.14)	(1.00)	(1.25)
IRA X Dem A			-0.32		3.40
			(0.71)		(2.65)
IRA X Aut A			0.40		1.90
			(0.35)		(2.48)
State A Democratic			-0.38		-4.89
			(0.97)		(3.00)
State A Autocratic			0.21		-1.66
			(0.72)		(2.43)
Both Democratic	-1.17**	-1.05**	-0.41	-2.01*	-1.27
	(0.41)	(0.40)	(0.56)	(0.82)	(1.03)
(ln) Capabilities	-0.32	-0.28	-0.28	-0.22	-0.15
	(0.27)	(0.25)	(0.25)	(0.37)	(0.36)
(ln) Dyad Distance	-0.34	-0.46	-0.53	-0.70	-0.73
	(0.41)	(0.39)	(0.38)	(0.71)	(0.71)
Alliance	0.83	0.75	0.74	-0.96	-1.41
	(0.56)	(0.54)	(0.54)	(1.34)	(1.30)
Contiguity Dummy	0.70	-0.56	-1.08	-2.94	-2.68
	(3.30)	(3.14)	(3.08)	(5.84)	(5.82)
Major - Minor Dyad	3.72***	2.68**	2.59**	3.42*	4.02*
	(0.89)	(0.88)	(0.89)	(1.51)	(1.63)
Minor - Major Dyad	2.51**	2.40**	2.45**	3.14*	3.24**
	(0.84)	(0.80)	(0.82)	(1.28)	(1.20)
Major - Major Dyad	2.38	2.23	2.20	-14.93	-16.22
	(2.05)	(1.82)	(1.76)	(7068.40)	(19772.14)
Trade Dependency A	-4.04	-3.57	-5.44	-25.94	-27.95
	(6.23)	(5.98)	(6.21)	(30.74)	(31.36)
Trade Dependency B	-12.53	-9.64	-9.83	-1.24	-2.47
	(7.69)	(7.40)	(7.32)	(11.38)	(10.67)
Rivals	8.34***	8.01***	7.92***	1.94	2.02
	(1.02)	(0.99)	(0.98)	(1.16)	(1.11)
Central Bank Dyad	-2.00**	-1.35*	-1.07	-3.87**	-3.91**
	(0.62)	(0.60)	(0.61)	(1.30)	(1.32)
Years of Peace	-0.06	-0.07*	-0.07*	-0.26***	-0.24***
	(0.03)	(0.03)	(0.03)	(0.07)	(0.07)
Years of Peace^2	0.00	0.00	0.00	0.00**	0.00*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Years of Peace^3	-0.01	-0.01	-0.01	-0.02*	-0.02
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Constant	-7.23*	-5.98	-4.85	0.15	3.35
	(3.40)	(3.20)	(3.23)	(6.25)	(7.31)
$\ln(\sigma_u^2)$	1.85***	1.63***	1.53***	0.26	-0.61
	(0.31)	(0.32)	(0.34)	(0.74)	(1.56)
Log Likelihood	-294.7***	-288.9***	-284.6***	-88.9***	-86.8***
AIC	623.3	617.7	617.2	217.9	221.7
N	36410	36410	36410	36410	36410

$***p < 0.001$; $**p < 0.01$; $*p < 0.05$; Random Effects Models;
β = Coefficient Estimates; (SE)=Robust Standard Errors; (L)= Lagged

These results obviously contradict previous assertions that investors constrain states' conflict behavior (Flandreau and Flores, 2012; Polanyi, 1944). As I argued in Chapter 2, these authors ignore the constraining effect of great power dynamics,

and therefore exaggerate the constraining effects of finance. More generally, the results suggest that states are not selecting into conflict because of their credit advantage, which increases our confidence that the inferences from the previous empirical chapters are valid.

This implication may appear contradictory to previous scholarship that connects finance and war outcomes. In a forthcoming article (Shea, 2013a), I find that credit costs prove important in determining war outcomes, particularly for democracies. If low credit costs help states win wars, then it may be logical that states would be more likely to enter wars if they can obtain credit. However, if states with better credit have incentives to enter war, states without credit advantages have incentive to reach negotiated settlements. Given the dyadic (or k-adic) nature of war, credit advantages may have an indeterminate effect on war onset, but a positive effect on war outcomes (i.e. better credit advantage, better war outcome).

Within the bargaining model of war framework, determining a state's ability to acquire external credit for war purposes should not be difficult. Interest rate information in secondary markets like London or New York, provide an idea of a state's credit worthiness. In addition, lenders have incentives to keep the lending process transparent. In Chapter 2, I described the sovereign lending activities of the Rothschilds, and how they were motivated to share information with European leaders to help avoid continental war. The Rothschilds realized that information helped avoid conflict, as it allowed leaders to reach peaceful settlements. In modern sovereign lending markets, loan auctions are public activities, easily observed by adversarial governments.

Another aspect of the bargaining model of war to consider is commitment problems. If states expect relative distributions of power to shift in the future, it may be difficult for states to agree upon a settlement in the present (Fearon, 1995). For example, if one state's power is growing and is expected to surpass an adversary's

power, the adversary has incentives to fight a war now rather than face a disadvantaged bargaining position in the future. The weaker (but growing) state has incentives to reach a settlement now because (1) it would probably lose a war in the present and (2) it can force better settlement terms in the future when the power distribution is in its favor. Since the weaker (but growing) state has incentives to change the settlement in the future, the adversary will not negotiate because the weaker state cannot commit to abide by a settlement.

Credit provides mobilization advantages, which theoretically should allow states to grow their military capabilities over time more effectively than states without access to inexpensive credit. If this is the case, then states with access to inexpensive credit should have better-later-than-now preferences for conflict, as its advantage over non-credit worthy states will grow over time. Given this, we may expect that states with access to inexpensive credit access to avoid conflict in the present. This is consistent with some of the results above, and even explains why low-to-mid level (in terms of military capabilities) democracies and autocracies were less likely to initiate conflict when they had credit access. This commitment argument is also consistent with McDonald (2011), who argues that states that are not dependent on its societal wealth (because governments have access to "free resources" like sovereign credit), can "sustain arms races and shift the global balance of military power" (1096).[16]

If the commitment logic holds, then states with low costs of borrowing may be more likely to be the target of militarized disputes. States without credit advantages may want to attack credit worthy states in the present before waiting for credit worthy states to use credit to build a military advantage in the future.[17] To further explore this assertion, I examine conflict models to explain why particular states are targets of conflict. Model 1 in Table 5.10 provides a baseline model for explaining

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[16] Also see McDonald (2010) for a statistical analysis of "free" resources and commitment problems.

[17] See Ferguson (1994) and McDonald (2011) on applications of this assertion to the origins of World War I.

why a state is targeted in a MID. Model 2 includes the interest rate variable. When I include interactions with regime types, I find that autocracies with low interest rates are more likely (roughly 20 per cent likelihood) to be targets of a MID. Models 4 and 5 replicate models 2 and 3, but uses the fatal MID threshold, and finds similar results: autocracies with low borrowing costs are more likely to be targeted in a fatal MID.

Table 5.10: Logit Examining Credit Costs' Affect on Conflict Targets, 1816-2001

		Initiate MID		Initiate Fatal MID	
	Model 1	Model 2	Model 3	Model 4	Model 5
	β /(SE)	β/(SE)	β/(SE)	β/(SE)	β/(SE)
Interest Rate (L)		-0.03	0.04	0.01	0.14
		(0.03)	(0.04)	(0.05)	(0.07)
IR*Democracy			-0.14		-0.03
			(0.09)		(0.13)
IR*Autocracy			-0.13*		-0.25*
			(0.06)		(0.12)
Democracy	0.52**	0.52**	0.82***	0.05	0.14
	(0.17)	(0.17)	(0.24)	(0.31)	(0.42)
Autocracy	-0.02	-0.03	0.28	-0.37	0.24
	(0.18)	(0.18)	(0.24)	(0.33)	(0.43)
ln(Capabilities)	0.19**	0.18**	0.18**	0.44*	0.47**
	(0.06)	(0.07)	(0.07)	(0.17)	(0.18)
ln(Quality of Capabilities)	0.05	0.04	0.04	0.09	0.12
	(0.04)	(0.04)	(0.04)	(0.08)	(0.08)
Rivals	-0.00	0.01	0.01	0.21**	0.22**
	(0.04)	(0.04)	(0.04)	(0.07)	(0.07)
Gold Standard	-0.59***	-0.62***	-0.60***	-0.94**	-0.83*
	(0.17)	(0.18)	(0.18)	(0.36)	(0.36)
Exports	-0.00	-0.00	-0.00	-0.00**	-0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Num. of Neighbors	-0.05	-0.05	-0.04	-0.17**	-0.14*
	(0.03)	(0.03)	(0.03)	(0.06)	(0.06)
Central Bank	-0.47**	-0.48**	-0.45**	0.50	0.54
	(0.17)	(0.17)	(0.17)	(0.35)	(0.37)
Regime Tenure	-0.00	-0.00	-0.00	-0.01	-0.01
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Threat Index	0.47	0.48	0.59	0.31	0.47
	(0.35)	(0.35)	(0.35)	(0.64)	(0.65)
Threat Change	0.00	0.00	0.00	0.05	0.04
	(0.02)	(0.02)	(0.02)	(0.11)	(0.10)
Peace Years	-0.21***	-0.21***	-0.21***	-0.41***	-0.41***
	(0.02)	(0.02)	(0.02)	(0.07)	(0.07)
Peace Years [2]	0.00***	0.00***	0.00***	0.00***	0.00***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Peace Years [3]	-0.00***	-0.00***	-0.00***	-0.00**	-0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.11	0.16	-0.12	-0.22	-0.91
	(0.46)	(0.47)	(0.49)	(1.04)	(1.10)
$\ln(\sigma_u^2)$	-1.23**	-1.18**	-1.10**	0.66	0.73
	(0.44)	(0.43)	(0.41)	(0.40)	(0.40)
Log Likelihood	-1288.8***	-1288.2***	-1285.5***	-487.9***	-484.8***
AIC	2611.7	2612.4	2611.1	1011.9	1009.5
N	2954	2954	2954	2954	2954

$* * * p < 0.001$; $* * p < 0.01$; $* p < 0.05$; Random Effects Models;
β = Coefficient Estimates; (SE)=Robust Standard Errors; (L)= Lagged

The conditional effect of interest rates on being targeted for conflict is consistent

with the event study analysis results in Chapter 4. Sovereign markets respond favorably to democracies when then enter a militarized dispute because the market expects that democracies are less likely to escalate their conflicts. Autocracies on the other hand, do not receive favorable reactions from the lending market. Therefore, autocracies with good access to credit are more attractive targets than democracies with good access to credit because democracies can use the favorable reactions from lending markets to quickly dissipate any advantage an adversary once had.

Though these results are preliminary, they have possible implications on the commitment problem and preventive war literature. One of the features of commitment problem logic is that states have shared expectations about relative capabilities and how these relative capabilities will change over time.[18] As stated above, credit information is often public. Therefore, if leaders' expectations of relative capabilities are a function of a state's credit access and credit costs, it is reasonable to assume that this aspect of leaders' expectation should be shared.

Another implication of the target results is that they highlight the need to focus on financial factors when determining changes in relative capabilities. Power transition theorists often focus on economic factors such as domestic productivity, while balance of power theorists focus more on military factors. However, financial power (and the relative changes in financial power) helps explain states' power (and the relative changes in power). The results above suggest that future research concerned with preventive war should consider financial factors as possible causal mechanisms.

5.3 Conclusion

In this chapter, I demonstrated that high costs of credit do not constrain states' conflict initiation behavior. These results may be initially counter-intuitive given the

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[18] This does not mean that states actually have complete information, only that they share an idea about each others' capabilities. Otherwise, the commitment problem dissolves into a problem of information asymmetry.

importance of finance to war efforts. However, I argued that we should not expect to observe a constraining effect because governments have alternative finance options and investors face collective action problems. The results in this chapter support this argument.

These results are also consistent with the evidence in Chapter 2 that the Rothschilds, despite their dominance in the sovereign lending market, did not constrain states from war. The Rothschilds had unprecedented political access across Europe in the 19th century, but this did not appear to prevent leaders from starting wars. In addition, the Rothschilds were not always opposed to the idea of war, as long as it was limited in nature. The results from the event study analysis in Chapter 4 confirms that markets do not always react negatively to the news of war, contradicting scholarship that emphasizes the dovish preferences and constraining influence of sovereign lenders (Kirshner, 2007; Flandreau and Flores, 2012).

One result that does have implications on conflict initiation is that states with low borrowing costs are more likely to be a target of a militarized dispute with more than twenty-five causalities. This is consistent with McDonald's (2011) argument that states with access to sovereign credit (or other "free resources") have difficulty credibly committing to international settlements. As a result, credit worthy states are more likely to be targets in preventive wars. This may have implications for the sovereign lending market given that there is evidence that preventive wars are more likely to unlimited wars (Weisiger, 2013). If credit worthy states are more likely to participate in unlimited, preventive wars then sovereign markets should react negatively towards these states at the start of preventive dispute. More research is needed to explore the commitment dynamics between credit costs and conflict. More discussion on this, and other possible research projects, can be found in the next chapter.

5.4   Appendix

Table 5.11: Summary statistics

Variable	Mean	Std. Dev.	Min.	Max.	N
Monadic Variables					
Initiated Conflict	0.201	0.401	0	1	2954
Fatal MID Initiate	0.018	0.133	0	1	2954
Interest Rate (L)	2.01	2.072	0.266	31.749	2954
Credit Access	1	0	1	1	2954
Credit Worthy	0.758	0.429	0	1	2954
ln(Capabilities)	-4.959	1.743	-9.409	-0.957	2954
ln(Quality of Capabilities)	6.854	2.431	0.978	12.31	2954
Rivals	1.015	1.869	0	13	2954
Democracy	0.496	0.5	0	1	2954
Autocracy	0.134	0.341	0	1	2954
Gold Standard	0.222	0.416	0	1	2954
Exports	15859.37	61885.351	0.01	772124	2954
Num. of Neighbors	5.233	3.291	0	22	2954
Central Bank	0.645	0.479	0	1	2954
Regime Tenure	31.389	33.495	0	191	2954
Threat Index	0.296	0.163	0.002	0.842	2954
Threat Change	-0.227	3.454	-150.321	0.994	2954
Peace Years	10.991	25.982	0	163	2954
Resource Revenue as a percentage of GDP	0.027	0.048	0	0.555	2137
ln(Capabilities)	-4.959	1.743	-9.409	-0.957	2954
ln(Quality of Capabilities)	6.854	2.431	0.978	12.31	2954
Population over 65	8.838	4.351	2.523	18.26	962
Target in MID	0.201	0.401	0	1	2954
Target in Fatal MID	0.056	0.23	0	1	2954
Dyadic Variables					
MID Initiation	0.003	0.052	0	1	36410
Fatal MID	0.001	0.029	0	1	36410
Interest Rate Adv.	1.135	0.747	0.044	22.691	36410
(ln) Capabilities	-1.147	1.221	-7.358	-0.001	36410
(ln) Dyad Distance	7.698	2.171	0	9.420	36410
Alliance	0.172	0.377	0	1	36410
Contiguity Dummy	0.063	0.244	0	1	36410
State A Democratic	0.748	0.434	0	1	36410
State B Democratic	0.748	0.434	0	1	36410
Autocratic A	0.039	0.193	0	1	35613
Autocratic B	0.039	0.193	0	1	35613
Both Democratic	0.556	0.497	0	1	36410
Major - Minor Dyad	0.097	0.296	0	1	36410
Minor - Major Dyad	0.097	0.296	0	1	36410
Major - Major Dyad	0.008	0.089	0	1	36410
Trade Dependency A	0.008	0.026	0	0.614	36410
Trade Dependency B	0.008	0.026	0	0.614	36410
Rivalry	0.005	0.067	0	1	36410
Central Bank Dyad	0.742	0.438	0	1	36410
Years of Peace	49.552	41.326	0	176	36410

Chapter 6
Conclusion

6.1 Summary

This dissertation began with the puzzle of why we observe so many wars funded by debt if lenders usually prefer peace and demobilized government strategies. To answer this puzzle, this study examines the preferences of an important non-state actor: sovereign lenders. In Chapter 1, I argued that contrary to the conclusions of the existing literature, sovereign lenders do not always have dovish preferences. Instead, lenders look for lending opportunities when states mobilize for conflict. Lenders will be more likely to lend when they expect conflict to be limited or that the outcome of the dispute will be mobilized peace. We observe wars funded by debt when conflict unexpectedly escalates into unlimited war, and creditors are stuck with their loans to the warring parties.

To empirically support this argument, this dissertation used a mixed-method approach. Chapter 2 examined the sovereign lending dynamic between the Rothschild Bank and Austria in a qualitative case study. The case analysis demonstrated that the Rothschilds were willing credit facilitators to Austria's interventionist actions in Europe as long as the probability for continental war was low. The Rothschilds' dominance of the sovereign credit market provided the financial intermediary an informational advantage in their assessments of likelihood of war. In addition, I find limited evidence to support the assertion that the Rothschilds, or any other sovereign lender, had a constraining effect on governments' foreign policies. Instead, I find that Rothschilds were effective in disseminating information to European leaders, thus

reducing the likelihood of war.

Chapter 3 continued the qualitative approach by examining the preferences of domestic lenders in the lead-up to World War II in Germany and Britain. While the case showed that domestic lenders were also wary of the likelihood of war, it also demonstrated that governments have strategies to overcome investors' reluctance to lend for war purposes. The cases of Germany and Britain showed that domestic, short-term credit markets can be manipulated by governments in order to extract savings from society.

Chapter 4 statistically examined the reaction in sovereign credit markets to the news of conflict. The analysis showed that latent characteristics of states that predict whether a state will escalate their disputes are important indicators of changes in the sovereign credit market. In sum, democracies, states in policy disputes, and states with low military capabilities receive favorable reactions from sovereign credit markets when they experience a conflict because the markets expect that these disputes will not escalate. Conversely, states with high military capabilities, states in territorial disputes, and states recently in conflict face higher interest rates in the lending markets because investors fear conflict escalation. The analysis also supported the inferences in Chapter 2 regarding markets reactions in the 19th century. Because the sovereign lending market was dominated by a few, well-informed financial intermediaries, market changes were more of a function of financial intermediaries and not the latent characteristics of states.

Finally, Chapter 5 examined how sovereign credit dynamics affect government decisions to enter military disputes to address concerns about possible endogeneity or selection bias in the previous empirical chapters. I find no evidence that governments' are constrained by borrowing costs or credit access. Instead, I find some support that credit advantages may give states incentives to delay conflict (better-later-than-now preferences), but also may give adversarial states incentives to target credit worthy states in conflict.

6.2   Implications

There are several implications of the findings in this dissertation. First, the results contradict the conventional wisdom that sovereign investors often have dovish preferences and that these preferences have a constraining effect on governments. Instead, I find that investor preferences are much more nuanced and sensitive to the international relations dynamics that predict conflict escalation.

There are several reasons why the results in this dissertation come to different conclusions than previous studies. First, this analysis specifies sovereign investors' preferences over government strategies, not just outcomes. I assume that investors, like decision-makers, understand that international relations is beset with uncertainty: peaceful strategies do not guarantee peace, while military strategies do not necessarily lead to war. Investors attempt to use this uncertainty to their advantage to find low risk lending opportunities. As long as the risks for a war are low, or that the war would be limited in nature, then investors have incentives to lend to states. In terms of outcomes, investors prefer a mobilized peace to outcomes of peace or war. However, in order to reach a mobilized peace, investors will have to lend to states that follow mobilizing or interventionist strategies. Up until this point, scholars have assumed that investors would be wary of these types of strategies.

The second reason why this dissertation differs from previous scholarship is that this analysis seriously considers the power dynamics in international relations. Works such as Flandreau and Flores (2012) and Polanyi (1944) exaggerate the constraining effect of sovereign finance because they ignore the influence of great power dynamics. The case study in Chapter 2 demonstrates that investors, such as the Rothschild Bank, understood the balancing effects in 19th century Europe, and made their lending decisions based on their estimation of whether great powers would fight each other.

Third, my study disaggregates the finance category, separating out the part of

the community that invests in sovereign debt and the part that does not. This difference in investment strategy creates a heterogeneous effect in terms of preferences of government strategy. While it may be true that (as Kirshner contends) that finance dislikes conflict, I expect this preference to be stronger in that segment of finance that does not invest in sovereign credit. My results demonstrate that sovereign investment markets actually respond favorably to some conflicts, demonstrating the importance of conceptually disaggregating the finance category.

Finally, this study reaches different conclusions from previous work because of new empirical strategies. Unlike previous work, this dissertation relies on quantitative sovereign credit market data to infer investors' preferences towards government strategies. I find that investors' preferences are much more nuanced than previously thought. In addition, my qualitative analysis considers the constraining effects of great power politics in the 19th century, and finds that this, and not finance, is the root of peace in the "Hundred Years Peace." Finally, I take a comprehensive examination of both investors' propensity to bet on winners and investors' ability to constrain governments, and find little evidence to support either assertion. In sum, the mixed-methods approach used in this dissertation allows for clearer inferences in regards to both investors' preferences and investors' effects in international relations.

In addition to coming to different conclusions than the existing literature, my analysis adds new insights to the political analysis of sovereign credit. For example, the case analysis of British and German mobilization before World War II demonstrated the important differences between domestic and external credit markets. During the 1930s, the Nazi government repeatedly manipulated the credit market in order to extract capital from its domestic society. Even the British government undertook a number of strategies to ensure that they would receive inexpensive domestic credit throughout World War II.

The examples of Britain and Germany manipulating their credit markets in the

lead-up to World War II demonstrated the growing financial sophistication of governments. During the 19th century, governments relied on financial intermediaries to handle financial transactions. This arrangement slowly evolved over time, as governments eliminated the need for intermediaries, and began to directly sell debt to the public. This had two major effects. First, it reduced the informational role of intermediaries in international relations. As the analysis in Chapter 2 demonstrated, intermediaries had incentives to share information between foreign leaders in order to avoid war. The Rothschilds facilitated information flows across Europe so that leaders were informed about other leaders' preferences. Rather than having a constraining role as Flandreau and Flores (2012) and (Polanyi, 1944) argued, the Rothschilds had an informing role. Reducing the information asymmetry in the market proved useful to the Rothschilds, as it helped avert war over Belgium in the 1830s. However, as the role of intermediaries was reduced throughout the 19th and early 20th century, intermediaries - including the Rothschilds - lost their incentives to monitor sovereigns and share information. As result, financial intermediaries no longer helped reduce information asymmetry in international relations.

Related to the changing role of intermediaries in the sovereign credit market is the changing dynamics of credit sources. After the Napoleonic Wars, only Britain, France, and the Netherlands were positioned to access domestic credit. However, as the century proceeded, other governments began to access domestic credit sources. Presently, most developed states and some developing states access domestic sources of credit when borrowing (Global Finacial Data, 2012). While new credit markets provide governments more opportunities to borrow, domestic credit does not always provide governments (or their constituencies) the same benefits as external credit. For example, short-term domestic debt gives governments incentives to follow inflationary policies to devalue debt holdings.

The final implication of the results of this dissertation is that I find no evidence that investors are betting on the expected winners of war. Instead, investors bet on

states to avoid war and will reward states likely to engage non-escalatory strategies. This finding contradicts the conventional wisdom offered by Flandreau and Flores (2012), thus limiting the threat of endogeneity and selection bias in this analysis.

6.3 Limitations

As with any study, this dissertation faces limitations. First, there are limitations with availability of data. The statistical analysis in Chapters 4 and 5 use a wide array of sovereign interest rates to analyze investor preferences and the effect of credit on conflict decision-making. However, it is evident that some states that have access to credit do not have this data readily available. For example, Austria borrowed extensively throughout the 19th century, but did not have bond yield data available until the late 1860s. In addition, many Latin American countries that borrowed for war in the 19th century have no loan information available.

Given that missing data can produce estimation risks, I employed several measurement alternatives and data selection models to ensure that the inferences in this study are valid. These robustness models produce consistent results with my theory and my main models. However, better data collection can help increase our confidence that the inferences in this study hold for all states, not just states in the sample.

Another limitation of the empirical analysis in this dissertation is the lack of econometric identification strategy. Since credit costs, credit access, and conflict are non-random, the effects of these phenomena may be biased given that the causal variable of interest is potentially non-ignorable.[1] Non-ignorability is less of a threat to the event study analysis in Chapter 4, given that a counterfactual credit market is modeled using exogenous factors. However, anticipation of conflict could possibly contaminate my estimation window, which would ultimately bias my results. I use

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[1] Ignorability is the assumption that the explanatory variable's distribution (or assignment) is independent of the outcome variable.

different model specifications to ensure that investors are not anticipating conflict, and the robustness models are consistent with the main models. However, given that expected conflict is potentially endogenous to changes in the sovereign credit market, non-ignorability is still an issue. In Chapter 5, I use an instrumental variable to deal with potential ignorability. Unfortunately, there is no valid instrument for conflict to use in the models in Chapter 4. Still, the event study analysis relies on an exogenous variable (global interest rates) to model the effects of conflict, which should limit the inferential threats.

Non-ignorability is more of an issue for the conflict models in Chapter 5. As I have argued and demonstrated throughout this dissertation, conflict and the expectation of war affect sovereign investor preferences. Therefore, it is reasonable to assume that interest rates are a non-ignorable variable in explaining conflict. To deal with these issues, I rely on lagged independent variables, control variables to condition ignorability, a selection model, and an instrumental variable. While these econometric strategies can increase our confidence that a causal effect is identified, without complete randomization of the treatment, the causal inferences from the models may be limited.

6.4   Future Research

While the limitations of this dissertation may constrain some of this project's potential, they also offer opportunities for future research. In this closing section, I outline several potential projects derived from the research presented in this dissertation. To begin, it may be useful to examine whether a leader's financial sophistication affects conflict decisions. Michael Horowitz and Allan Stam have an ongoing research project that examines how the background experiences of leaders affect conflict

decision-making.[2] Most of their work focuses on military backgrounds, but similar research can be extended to financial or economic backgrounds. For example, Neville Chamberlain's experience in business or as the Chancellor of the Exchequer (the British cabinet position responsible for all economic and financial matters) may have increased his awareness of the importance of access to sovereign credit. Chamberlain was called an"accountant in politics," because "he views the whole world primarily from the angle of dividends and exchange quotations" (quote from Ivan Maiskey, Soviet Ambassador to Great Britain, 1932 - 1943, found in Ferguson 2008b, 456).

Chamberlain's economic and financial experience may have also affected his preferences on military strategy, pushing him to follow a policy of appeasement instead of a policy of rearmament that could have had devastating economic effects.[34] Chamberlain told his cabinet after the Munich crisis that he had been "oppressed with the sense that the burden of armaments might break our backs" ever since be had been Chancellor of the Exchequer (quoted in Peden 1979, 105).

Leaders without a financial background may not realize the importance of finance to war efforts until war is underway. This would help explain how access to inexpensive sovereign credit helps win wars but does not drive states to initiate conflict. While it is likely that leaders without financial backgrounds have advisors and government ministers that do have finance experience, it is unclear how much

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[2] For example, see Horowitz and Stam (2013).

[3] This explanation also offers an alternative to Narizny's (2003) argument that Chamberlain's appeasement policy was a result of his reluctance to tax his conservative constituency. Note that Narizy does not account for the possibility of borrowing for rearmament. Considering other finance option besides taxes helps explain how Reagan was able to rearm the U.S. in the 1980s despite a conservative constituency.

[4] The fact that Winston Churchill also served as Chancellor of the Exchequer and had different preferences than Chamberlain on military mobilization in the 1930's contradicts this assertion. However, Churchill's experience during World War I (Chamberlain did not serve) may have had more influence on his policy preferences in the 1930s than his experience as the Chancellor of the Exchequer. This may be especially true given that Churchill's policies during his tenure as the Chancellor of the Exchequer - including a return to the gold standard - were considered unsuccessful (Peden, 2000).

influence these advisors can have. An interesting line of potential research should examine how leaders' prior background in finance affects decisions to enter conflict.[5] In addition, how leaders' structure their ministries or personal advisor circles may also affect what role finance has on geopolitical decisions.

Another potential research project relates to the investors' learning. The analysis in Chapter 2 revealed that the Rothschilds were sensitive to the outbreak of a continental war in the 19th century because of their experience during the Napoleonic Wars. This is consistent with Jervis (1976), who argues that individuals tend to learn from major events, especially if those events are experienced first-hand at a formative period in life. While the Rothschilds' emerged from Napoleonic Wars as the dominant sovereign lender, the war almost brought the bank to insolvency (Ferguson, 2005b, 315). This was a particularly important time for the intermediatory given that the founder and patriarch, Mayer Amschel Rothschild, died in 1812 before the war was terminated (Ferguson, 1998). This left the five Rothschild brothers (Nathan, Amschel, Salomon, Carl, and James) alone to internationalize the sovereign lending market across Europe. As the family business passed on to new generations, there is less evidence that the Rothschilds were concerned with a war like Napoleonic Wars. It is possible that this new generation of sovereign investors over-learned from the limited warfare of the 19th and early 20th century. Ferguson (2005a) argues that World War I was a "bolt out from the blue" for investors. Given this, the reactions to conflict in the sovereign lending market may be a function of previous conflict or long periods of peace. More research is needed to examine this issue.

There are additional avenues that can be explored regarding investor preferences and interstate conflict. For example, the event study analysis results in Chapter 4 show that states in high threat environments actually received favorable reactions

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[5] Great Britain may provide an interesting case to analyze given that a substantial number of prime ministers previously served as Chancellors of the Exchequer.

from the sovereign lending market in the 1945-2001 sample. These results suggest that investors' views towards conflict escalation evolved over time, accounting for the importance of alliances in the Cold War era. The perceived stability of the bipolar system may have led investors to lend to states in high threat environments, given that war was unlikely (or if war did occur, the consequences of war would make sovereign credit markets irrelevant given nuclear weapons). Unfortunately, there is a lack of research concerned with the dynamics of credit and alliances. Allen and DiGiuseppe (2013) argue that credit can help develop state's military capacity, but states without credit have to substitute alliances for their military capacity. However, it is theoretically unclear why credit and alliances are substitutes, rather than complements. (Poast et al., 2013) argue that military capacity and alliances should reinforce each other since states would want to align with stronger, not weaker states. This same logic should apply to credit and alliances, where states would benefit more from alliances with credit worthy states rather than credit unworthy states. The results in Chapter 4 support this assertion, if alliances are explaining why states in high threat environments are getting better terms of credit at the start of conflicts. More research is needed to explore the dynamics between credit and alliances.

More research is also needed to explore credit dynamics and crisis bargaining. The results in Chapter 5 contradict the notion that credit constrains states from initiating conflict. Instead, the results suggest that under some conditions, states with favorable borrowing conditions will be less likely to initiate conflict but will be more likely to be targets in conflict. This is consistent with McDonald's (2010, 2011) work that posits that states with access to "free" resources - like sovereign credit - cannot credible commit to adhering to settlements, and therefore, will be more likely to be involved in war. Specifically, McDonald argues that states with "free" resources will be targets in preventive wars. More research is needed to build on McDonald's work, specifically to explore the role of credit in crisis bargaining

strategies.

One potential avenue of research could explore how conflict-financing strategies affect crisis outcomes. Slantchev (2012) argues that debt and war finance can push states into war although peace is the mutually preferred outcome. However, Slantchev's model focuses on how debt can shrink, and even close, the bargaining range between states. An alternative focus could examine whether finance choices - such as borrowing, taxes, and inflation - send signals to adversaries during crises. Decisions to borrow may signal that settlements cannot be credibly agreed upon, while a tax strategy may lead to peaceful settlements. Credit helps insulate governments governments from continually renegotiating domestic fiscal bargains, thus allowing states to pursue mobilization strategies with less domestic constraints (McDonald, 2011). If true, this offers an alternative to Slantchev's theory, which argues that finance's role in bargaining is not necessarily a commitment problem.

Similarly, more research is needed to reveal what informational effects investors have in bargaining crises. Chapter 2 argued that financiers did not constrain state leaders, but rather helped avert war with sharing of information. The Rothschilds, with their extensive network in the 19th century, were well-situated to collect and dispense information throughout Europe. This helped leaders understand their adversaries' preferences and assessments, and decreased the information asymmetry in international relations. However, as the Rothschilds lost their monopolist position in the sovereign lending market, they lost their incentives to monitor sovereigns. More research is needed to explore the role of sovereign investors, information, and international conflict.

The final proposal for future research is to explore the heterogeneity within the credit data. This heterogeneity, while it poses some empirical challenges, also offers opportunities to researchers. Credit data can vary on its source (domestic and external), length (short-term and long-term), costs, and intended use. As discussed in Chapter 3, differences in domestic and external debt can have real effects on a

state's economy. In addition, the length of debt can have inflationary consequences. Therefore, variation within credit terms may help explain additional variation in international outcomes. This dissertation only addresses the variation of costs (i.e. interest rates) while holding the length and source factors constant (by only considering long-term, external debt instruments). However, these other variations may prove useful in future research.

In addition, there may be conditional effects of credit that need examination. For example, this dissertation explores how credit effects may be conditional on regime type. However, the empirical models only use simple binary measures of regime types (i.e. democracies and autocracies). The heterogeneity within regime types (i.e. autocracies with parliaments versus military autocracies or presidential systems versus parliamentary systems) may produce productive insights. More research is needed to explore this heterogeneity.

These proposed research extensions demonstrate the potential growth of the literature on sovereign credit and international relations. This dissertation attempts to contribute to this burgeoning area of scholarship by focusing on the preferences of sovereign investors in times of conflict. As result, we have a better understanding of the preferences of these important non-state actors and thus have a better understanding how government finance their militarized strategies.

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