

Crises and Consequences: The Role of U.S. Support in International Bond Markets*

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Abstract

Sovereign default and restructurings should, in theory, lead to creditor punishment through higher borrowing costs or capital market exclusion. However, empirical evidence shows that punishment is inconsistent and not uniform across defaulters. We argue that this disconnect can be explained by examining the role of geopolitical relationships, particularly with the United States, in shaping sovereign credit outcomes. US support conditions the expectations of both borrowers and creditors by providing a fiscal cushion and subsidized insurance. This dynamic incentivizes supported states to engage in riskier financial behavior, increasing their likelihood of default. Paradoxically, post-default US support continues to signal a greater ability to pay compared to non-supported states, reducing creditors' incentives to punish. Using data on commercial defaults from 1970 to 2012, we find that states with higher levels of US support are more likely to restructure their debts. After restructuring, these states face lower borrowing costs and experience shorter periods of exclusion from bond markets. Our findings highlight how international political dynamics shape both the likelihood of default and subsequent market reactions, contributing to our understanding of the complex interplay between geopolitics and sovereign debt.

*All replication data for this study will be made available through Harvard Dataverse upon publication.

1 Introduction

Sovereign credit allows states to address short-term fiscal shortfalls during financial crises and smooth out government consumption. In addition, debt provides leaders with important fiscal resources to satisfy key constituents and stave off political opposition. Despite these benefits, countries continue to default or restructure their debt, risking future access. According to economic theory, the financial markets should punish defaulters with higher borrowing costs or even exclusion (Eaton and Gersovitz 1981). However, empirical results are mixed (Panizza, Sturzenegger and Zettelmeyer 2009, Gelos, Sahay and Sandleris 2011, Sandleris 2016), and punishment isn't uniform (Cruces and Trebesch 2013). Why do some states escape the harshest consequences of default?

In this study, we argue that borrowing states' strategic relationships with major powers, particularly the United States, affect their repayment preferences and markets' perceptions of their post-default creditworthiness. We focus on how expectations of third-party actions impact debt management decisions, moving beyond the traditional creditor-debtor bargain. The US has a strategic interest in maintaining the stability of certain countries and thus provides a fiscal cushion and subsidized insurance to its partners. We argue that by creating alternative revenue sources and signaling possible bailouts, the same mechanisms that induce moral hazard in debtors also provide additional assurances to creditors. Even after default, US support signals a greater ability to pay *in the future*, decreasing creditors' incentives to sanction.

We test our argument using data on access to and the cost of sovereign credit following default and restructuring episodes. States with higher levels of US support are more likely to default on foreign obligations, reaffirming previous findings on the impact of political ties on debt management (Aklin and Kern 2019, Lipsky and Lee 2019). Focusing on bondholder reactions, we find that US-supported states also avoid the harsh consequences normally associated with default, facing lower borrowing costs and shorter periods to re-enter bond markets post-restructuring. Some of the reputational costs of default are made up by political ties.

Our findings have several important implications. First, previous work has tended to focus on

state-centered implications of debt. For example, political institutions and distributional preferences are strong predictors of governments' decisions to repay their obligations (VanRijckeghem and Weder 2009, Schultz and Weingast 2003, Curtis, Jupille and LeBlang 2014). Our argument highlights how system level variation provides an often overlooked incentive for states to address debt problems.

Second, much of the debt literature focuses on creditor screening (Beaulieu, Cox and Saiegh 2012, Copelovitch, Gandrud and Hallerberg 2018, Brooks, Cunha and Mosley 2022, Ballard-Rosa, Mosley and Wellhausen 2021). We highlight how geopolitical expectations condition creditor sanctioning (DiGiuseppe and Shea 2019, Cruces and Trebesch 2013). Our argument that geopolitics shapes the expectations of both borrowers and creditors in mutually reinforcing ways helps us answer long-standing questions about creditor punishment, or the lack thereof.

Finally, our study has implications on security and alliance politics. American support is often predicated on security issues and, as a result, security dynamics may change states' incentives on how to handle debt. Given that debt affects how and why wars occur (Shea and Poast 2018), our findings have important implications for the IPE-conflict nexus.

2 The (international) politics of debt

Debt is an important source of revenue for governments. It can be used to provide private benefits to supporters, curry favor with opposition groups, or smooth domestic consumption, all of which increases the incumbent's likelihood of maintaining political power (DiGiuseppe and Shea 2015, 2018, Ballard-Rosa 2016). The ability to borrow, and at low rates, not only aids incumbents' domestic security but it also has positive implications for international security. Borrowing relaxes governments' budget constraints, allowing them to increase investment in security without sacrificing domestic goals (DiGiuseppe 2015).

However, debt must be repaid, and national sovereignty complicates the legal enforcement of sovereign debt contracts. Thus, lenders attempt to detect the likelihood of repayment ex-ante by

screening for debtors' ability and willingness to repay (Stiglitz and Weiss 1983). Given incomplete information, investors rely on a variety of heuristics to form beliefs about a government's creditworthiness. For example, a states' reputation for repayment, and under what conditions, affects perceptions of creditworthiness (Tomz 2007). Political determinants also shape market perceptions (North and Weingast 1989). For example, democracies appear to be more creditworthy, winning an "advantage" in international capital markets (Schultz and Weingast 2003, Beaulieu, Cox and Saiegh 2012, Ballard-Rosa, Mosley and Wellhausen 2021).

Distributional preferences also matter. For example, unemployed citizens are less likely to support debt repayment, while those dependent on capital inflows are more likely to support repayment (Curtis, Jupille and LeBlang 2014). These preferences usually map onto partisan politics, and help explain why right leaning governments receive better credit ratings (Campello 2015). Partisanship also explains the terms under which governments are willing to borrow (Ballard-Rosa, Mosley and Wellhausen 2022) and how they negotiate debt restructurings (DiGiuseppe and Shea 2019).

While much of the literature has focused on how domestic factors impact states' access to credit, investors also consider international conditions when screening potential borrowers. For example, when the supply of global capital is high, creditors are willing to provide credit to riskier markers at lower rates. When supply is low, even "good" governments might find it difficult to borrow (Mosley 2003, DiGiuseppe and Shea 2016). The financial health of regional neighbors may also lead to credit restrictions (Brooks, Cunha and Mosley 2015).

International factors are also present in arguments about moral hazard. The presence of third parties, usually the IMF, willing to bail out governments in financial trouble, acts as subsidized insurance and incentivizes states to borrow less cautiously (Vaubel 1983, Dreher 2004). The ability to borrow quickly from the IMF may unintentionally decrease financial stability and increase financial crises (Lipsy and Lee 2019). Political commitments can similarly incentivize risky behavior (Aklin and Kern 2019). While this research explains how international factors affect the likelihood of experiencing a financial crisis, it does not fully address how markets perceive these states after such episodes.

Previous studies consider how international political support impacts access to credit (Ambrocio and Hasan 2021) or borrowers’ debt management decisions (Aklin and Kern 2019). However, creditors possess additional tools to compel repayment; they don’t just screen potential borrowers, but they also sanction borrowers, making default costly. Default should increase future borrowing costs (Eaton and Gersovitz 1981), but evidence of punishment has been mixed (Panizza, Sturzenegger and Zettelmeyer 2009, Gelos, Sahay and Sandleris 2011, Sandleris 2016). In reconciling these inconsistent findings, the impact of political ties on *post-default* investor behavior has been underexplored.¹ Our argument, as described below, highlights how system-level variation explains crisis and post-crisis behavior of both borrowers and creditors.

3 American support, crises, and consequences

Our theory centers on how geopolitical relationships condition sovereign credit outcomes, particularly after a debt crisis. We assume that states benefit from cheap access to international credit markets and that private creditors benefit from the profits that lending generates. However, sovereign lending is more than a two-player bargaining game. Third parties shape the beliefs of both borrowers and lenders, with observable implications in international capital markets.

We focus specifically on borrowers’ relationship with the United States. The US played a pivotal role in shaping the post World War II financial system and remains one of the only countries with the economic resources to intervene on behalf of states in fiscal distress. Previous work has established the importance of US debt, the US dollar, US monetary policy and US banks to the workings of the international financial system (Miranda-Agrippino and Rey 2020, Gourinchas, Rey and Sauzet 2019).

We assume that the United States has a strategic interest in maintaining the economic and political stability of certain countries. Maintaining the right “friends” can spread American ideals,

¹“Gunboat diplomacy,” provides another example of the link between geopolitics and creditor sanctioning. Interestingly, while gunboats may have helped enforce lending contracts in the 19th and 20th centuries, we argue that security relationships in the 21st century may actually weaken enforcement.

advance security relationships, and provide allies in multilateral negotiations. Thus, the US extends preferential treatment to certain countries that advance its interests. We argue that differential expectations of this support condition both borrowers’ debt management and creditors’ assessment of risk in two, empirically indistinguishable, ways: fiscal cushion and subsidized insurance. Through these mechanisms, US support is a credible signal to creditors and debtors and updates their *beliefs* about future financial flows.

Being in the US’ sphere of influence increases financial resources, often viewed as compensation for surrendering sovereignty (Lake 2009). This support can take various forms. It can come through construction or employment contracts for US security forces (Cooley 2008). It can also come in the form of foreign aid. Aid may be tied to American security goals, as in the Philippines, where the 2021 renegotiation of the Visiting Forces Agreement was conditional on increased US financial assistance.² Aid may also be provided to advance broader US policy interests. For example, Ukraine was designated as a US “priority country” in the early 2000s, receiving “significant investments” for “promoting democratic practices and values worldwide.”³ Empirically, the US provides more aid to its allies (Alesina and Dollar 2000). Figure 1 shows that countries with above-average US support receive significantly more economic and military aid.⁴

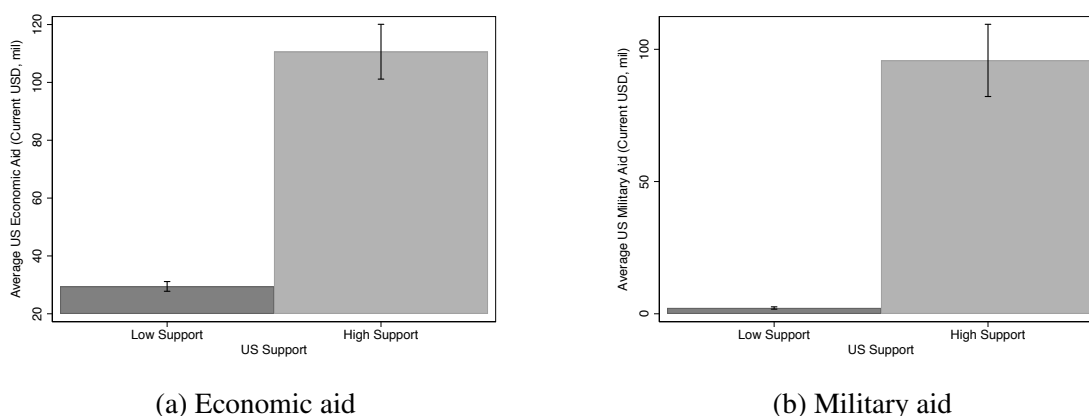


Figure 1: Average US Aid (Current USD, mil) by US support (high/low)

²<https://apnews.com/article/philippines-rodrigo-duterte-manila-united-states-4b6330c0760ac592718a95eb8895217d>

³<https://www.govinfo.gov/content/pkg/CHRG-106hhrg65494/html/CHRG-106hhrg65494.htm>

⁴Data on US support comes from McManus and Nieman (2019) and is described in Section 3. Data on economic and military aid is from the World Bank. Since this is not the main part of the paper, we present simple correlations in support of the proposed mechanism. See Appendix A.

A fiscal cushion can also come from US sovereign loan guarantees. In these cases, the government agrees to take on the “entire risk associated with a private bank loan to a sovereign country.”⁵ By guaranteeing debt issuance, US backing allows strategic partners to access private international capital markets at lower rates, increasing the available resources at their disposal. Guarantees are usually provided in conjunction with key reforms in partner countries that are integral to US foreign policy interests. For example, the US provided \$3 billion in guarantees to Ukraine in 2014-2016 in response to Russian aggression. Guarantees for Tunisia and Jordan in 2012-2015 were a response to the Arab Spring and an attempt to solidify democratic reforms.

US support also brings indirect fiscal benefits, assuming that government resources are fungible. For example, troop deployments increase foreign direct investment and trade (Biglaiser and DeRouen 2007, 2009). The revamped US International Development Finance Corporation (DFC) also marries investment financing and risk insurance for private-sector American actors with US foreign policy. It includes the former Overseas Private Investment Corporation (OPIC), which was used to provide insurance for US businesses investing in strategic partners like Indonesia and Egypt. According to a government report, “OPIC’s willingness to insure investments...[is] a kind of ‘seal of approval’”, which makes a difference in encouraging US firms to engage with poor and/or unstable partners.⁶ More recently, the DFC has been presented as a response to China’s Belt and Road Initiative. In Ecuador for example, the DFC provided support for projects “that refinance predatory Chinese debt.”⁷

Finally, US support also has the potential to decrease government spending, primarily through the substitution of foreign security guarantees for domestic military expenditures. Lake (2009) claims that not only will dominant states be more likely to join conflicts in which a subordinate is involved, but that this also incentivizes states to reduce their own defense efforts. Thus, funds originally earmarked for security can be reallocated towards other aspects of the domestic budget. US support provides economic benefits to partner states during “good” times.

⁵<https://crsreports.congress.gov/product/pdf/IF/IF10409/5>

⁶<https://www.gao.gov/assets/id-81-21.pdf>

⁷<https://www.dfc.gov/media/press-releases/dfc-and-ecuador-sign-framework-agreement-support-development-private-sector>

US support further implies that the US could provide additional support, bailouts or subsidized insurance, in “bad” times. States who find themselves in debt distress often turn to external actors for help. Bailouts act as an insurance scheme to transfer the financial cost away from domestic taxpayers to foreign ones. The typical answer to liquidity problems is an IMF program, which are designed to serve as a lender of last resort. IMF programs also play an important role through the debt sustainability analysis (DSA), which sets the targets for debt reduction. Yet, the IMF is not impartial and the unparalleled size of the US economy allows it to sway IMF decisions to the benefit of states they deem strategically important to US interests (Dreher, Sturm and Vreeland 2009, Oatley and Yackee 2004, Dreher and Jensen 2007, Ferry and Zeitz 2024).

The US also has the power to bailout countries directly. Schneider and Tobin (2020) argue that major powers should be more likely to provide a direct (bilateral) bailout when they are politically or economically exposed to a crisis country.⁸ Supporting allies during financial crises ensures that the “right” leaders, who support American interests, stay in power. The Mexican peso crisis in 1994-1995 serves as one canonical example of a US bailout to a strategically important country. For another, “the United States had important foreign policy interests in stabilizing democracy in Bolivia... [they were also] interested in pursuing an anti-cocaine policy in the region” (Sachs 1988). Bolivia received resource transfers upwards of 5% of GNP from official creditor countries during the crisis. Empirically, Schneider and Tobin (2020) show that allies of the United States are more likely to receive a bilateral bailout. Figure 2 demonstrates that this correlation is robust to our preferred measure of latent US support.⁹ American support can thus be beneficial to partner countries in good and bad times. On average, countries who receive an American bailout during a financial crisis enjoy higher levels of US support.

This mechanisms have implications for the debt management decisions of borrower states. Namely, incumbent governments benefit from both fiscal cushion and subsidized insurance, and these may give states incentives to pursue lax regulations or over-expansive macroeconomic poli-

⁸While bailouts from the IMF or bilateral sources provide some insurance, they’re often insufficient to prevent crises entirely (McDowell 2017).

⁹Data on US support comes from McManus and Nieman (2019) and bilateral bailout data is from Schneider and Tobin (2020). See Appendix B.

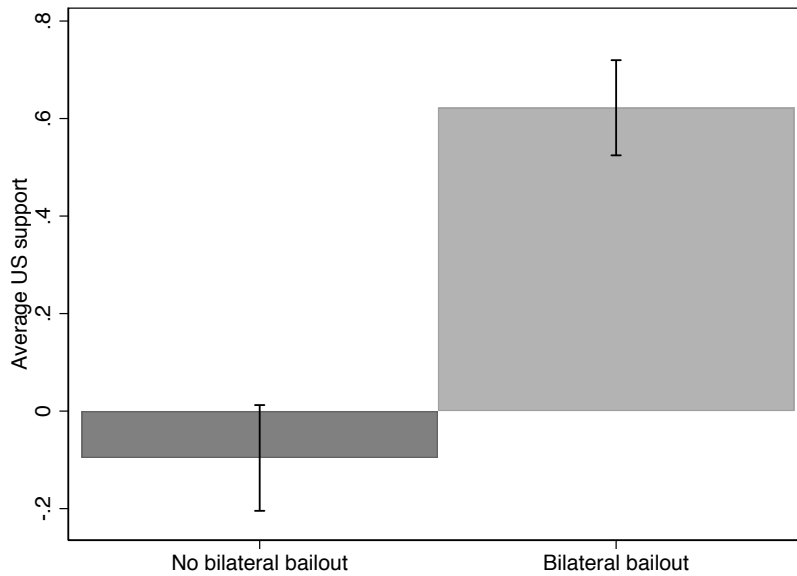


Figure 2: Average level of US support by US bilateral bailout

cies, which can be translated into political gains (Laeven and Levine 2009, Ansell 2014), especially around elections (Dinc 2005). For example, Aklin and Kern (2019) find that US troop deployments lead to lower capital controls and the increased likelihood of implementing a deposit insurance mechanism. Governments choose these risky policies when the benefits outweigh the costs, and the perennial nature of sovereign default suggests that debt policy is ultimately a gamble. In other words, the mechanisms we describe lead to borrower moral hazard because they have rational expectations that they won't bear the full cost of imprudent economic policies. This may be particularly true if the outcome of default is uncertain, the political costs are low or can be shifted elsewhere (Panizza, Sturzenegger and Zettelmeyer 2009, Gelos, Sahay and Sandleris 2011, Sandleris 2016, Yeyati and Panizza 2011, Pepinsky 2012, Hellwig and Coffey 2011), or leaders can rally a pro-default coalition (Nelson and Steinberg 2018).

If US support induces financial risk, why would private creditors lend to risky states? We argue that US support not only encourages riskier economic behavior for borrowers, but it also provides heightened assurances for creditors. These assurances come in two forms: financial support and a coordinating mechanism. First, US support frees up other areas of the government budget that can be used to repay foreign creditors. US support can also impact many of the macroeconomic

indicators, like the current account balance and GDP growth, that creditors rely on as a heuristic for creditworthiness. Looser budget constraints may indeed make US supported borrowers look better “on paper” while at the same time generating economic vulnerabilities.

Similarly, if creditors believe that US support will be forthcoming in crisis situations, then direct or US-pressured international bailouts continue to signal an increased ability to pay. They provide revenue that, while not directly earmarked for investor repayment, free up alternative areas of government spending. Bailouts from official creditors directly or indirectly subsidize repayment to private creditors, specifically bondholders. According to Schlegl, Trebesch and Wright (2019), bonds are more senior than bilateral official debt, official restructurings are more common than commercial restructurings, and haircuts on official debt are larger on average than haircuts on commercial debt restructurings. In this case, repayment comes from international taxpayers rather than domestic ones, but nonetheless private creditors’ contracts are more likely to get paid. In addition, Aklin and Kern (2019) demonstrate that US troop deployments lower economic downturns following financial crises. While less robust, IMF programs are also linked to favorable growth outcomes when controlling for adverse selection (Bas and Stone 2014). If US support leads to additional funds for creditor repayment, and if those funds help restore debtors’ solvency faster, creditors should prefer friends of the United States. This is not to say that US or IMF bailouts can entirely prevent default, but rather, they can soften the negative impact on creditors’ bottomlines.

In addition, US support to partner countries provides a focal point of interest in the international debt market. Creditors manage broad portfolios of debt instruments, spanning countries and term lengths. They are also constrained by short time horizons and limited information processing capabilities. Therefore, while they are profit motivated, they also care about relative performance in the market and within their firms. Bondholders get rewarded relatively, and thus have incentives to follow the investment behavior of others. Similarly, if bondholders get caught in a default, they would rather share the costs with other investors. As evidence of this, we observe herding behavior within financial markets (Zeckhauser, Patel and Hendricks 1991, Scharfstein and Stein 1990, Morsy et al. 2021). This herding suggests that boundedly rational creditors congregate to US

support as a heuristic, prompting others to share in both profits and reputational costs.

What happens if a borrower defaults? We argue that US support should also impact creditors' use of sanctioning mechanisms. While default, and the circumstances of default, reveal new information to creditors about a debtor's priorities for repayment (Tomz 2007), it shouldn't diminish the underlying signal of the US relationship. If American political ties remain strong in crisis situations, reputational costs may be made up by political ties. Post-default, US supported states should still receive positive financial flows, directly or indirectly. If creditors were to make new loans and US supported states were to default again, US support may soften the default, lead to faster recovery, and potentially free up resources for private creditor compensation. *Given default*, US supported states have a greater likelihood of paying "next time" as compared to non-supported states. For example, Tomz (2007) finds evidence of a punishment effect for sovereign defaulters during the period of 1820-1870 except for Greece, who was able to leverage its strategic ties and secure loan guarantees from England, France and Russia. These links to powerful actors allowed Greece to borrow while in default. Similar mechanisms of US support were important in Pakistan's weathering of its 2008 financial crisis. As we describe in the Appendix, financial markets were more willing to give Pakistan the benefit of the doubt when the US was in their corner.

3.1 Empirical implications

Our argument applies to multiple stages of the lending relationship, impacting how creditors supply and borrowers demand external finance. Building on previous work (Aklin and Kern 2019, Ambrocio and Hasan 2021), we focus on two empirical implications at the final stage: the decision to default and subsequent punishment in international financial markets. First, if US support is a credible signal to debtors' about the flow of resources, debtors should pursue riskier financial behavior, leading to higher rates of default.

H₁: US support will be associated with an increased of risk of external default

Second, our main contribution is to argue that US support should also condition creditors'

incentives to sanction after a debt crisis has occurred. If creditors believe that US support will continue after a debt crisis, this increases the probability that any future crisis will be softer and borrowers' economies will recover faster. US support will also help maintain positive financial flows after default. We therefore expect US-supported states to receive milder punishments in international financial markets compared to non-supported defaulters. To be clear, we do not argue that creditors won't punish US supported states; simply that their punishment will be less than that of other non-supported defaulters. Once creditors have already updated their beliefs to incorporate prior default, US support will continue to have a positive impact on their expectations of future repayment.

H₂: Given default, US support will be associated with decreased punishment in international financial markets

Finally, we note that if our second hypothesis about creditor punishment is true, it serves to reinforce our first hypothesis about borrower default. If borrowers anticipate less punishment, that increases their incentives to engage in risky financial behavior. Not only does our approach highlight international factors, which have received less attention, but it also speaks to a long-standing puzzle about whether or not creditors forgive and forget (Reinhart and Rogoff 2008). Creditors are quicker to forget when defaulting states have the right political backing.

4 Empirical Analysis

To evaluate our expectations about the role of international politics in sovereign debt dynamics, we compile country-year data for developing states from the year 1970 to 2012.¹⁰ First, we examine whether US supported states are more likely to experience a debt crisis. For countries that experience a crisis, we examine how long US supported states wait to re-enter capital markets. Finally, we examine how US supported states' credit is priced in the financial market post-crisis.

¹⁰The time series is limited to 2012 by data availability on US support. We do not expect the relationship between US support and bonds markets to differ substantially after 2012 to present.

4.1 Data

Independent variables Capturing the US' geopolitical support for a borrower country is challenging. One common measure for political ties is voting alignment in forums like the United Nations General Assembly. However, voting alignment is a better proxy for how borrower states support the United States instead of the other way around. Alternatively, the literature suggests that major powers can express their support through formal alliances, troop deployments, or arms transfers (Allen, Bell and Clay 2018, Yarhi-Milo, Lanoszka and Cooper 2016). They can also express their support through leader visits or foreign aid. The problem with selecting a single indicator is that governments do not choose their method of support randomly. For example, whether support is public (like a defense pact) or more private (like arms sales) depends on the domestic political situation major powers face (McManus and Yarhi-Milo 2017). An additional problem with economic measures like foreign aid is that they are likely endogenous to creditworthiness.

Therefore, we rely on a measure of *US Support* from McManus and Nieman (2019) as the main explanatory variable in all three of our empirical tests. The authors use a Bayesian latent measurement model, with observable indicators for leader visits, alliances, military exercises, statements of support, arms transfers, troop deployment, and nuclear deployment through 2012. We focus specifically on their measure of US support, which varies across both countries and time, and provide descriptive statistics in Appendix C.

This measure has two primary benefits. First, the measure is about signaling. We are less interested in whether or not the US bails out a specific country than we are about how US relationships signal the underlying latent value that the US assigns to maintaining the stability of a state. Second and relatedly, the US' geopolitical interest in a particular state is our key independent variable versus the fiscal cushion it provides is one potential mechanism. In other words, we want to know how US support changes creditors' assessment of ability to pay rather than if US support actually changes macroeconomic conditions. Therefore, it is important that our chosen measure isolates political and military variables, rather than economic ones. This fits with the approach taken by McManus and Nieman (2019).

Dependent variables Our first hypothesis is about the debt crisis behavior of US supported states. Most states when they enter a debt crisis attempt to restructure their debt burdens. When governments restructure their debt, old obligations are exchanged for new terms. Restructuring does not require a missed payment – approximately 30% of restructurings are negotiated preemptively – but it does involve a reduction in the principal or interest owed to creditors. As a result, restructurings imply a deterioration of creditors’ claims called a “haircut” (Cruces and Trebesch 2013). We measure restructurings dichotomously in the year they are completed.

There are several advantages to using restructuring events as a marker for debt crises. First, it limits debt dynamics to those between sovereign borrowers and private investors. Since our argument focuses on how international capital markets treat states that are supported by the United States, we want to exclude bilateral or multilateral lending. While these types of lending are important, we suspect that geopolitics will operate differently. Second, there are clearer indications when a restructuring episode begins and ends, and the outcomes for government and investor are usually formalized and observable (Cruces and Trebesch 2013, Asonuma and Trebesch 2016). This best aligns with our second and third empirical tests for the time and rate at which borrowers reenter markets *after* resolving debt crises. It’s not only important that our measures are congruent, but it’s also important to control for heterogeneity in debt crisis resolution (i.e. haircuts) when analyzing the effects of a debt crisis on a states’ future borrowing behavior. Despite these empirical advantages, we demonstrate that the results are robust to a dichotomous measures of default from Reinhart and Rogoff (2008).

In our second hypothesis, we expect that in the aftermath of a restructuring, states will have difficulty obtaining new credit. We focus on how this is reflected in the behavior of one specific group of creditors: bondholders. This class of private creditors is made up of large financial institutions, smaller regional or investment banks, hedge funds, mutual funds, boutique and retail investors, and sovereign wealth funds. When a government wants to take on new debt, they issue the debt in primary capital markets. The issuance period is very short, meaning that we can observe the moment when bondholders, as a collective, extend new credit to a government (Ballard-Rosa,

Mosley and Wellhausen 2021).

Therefore, our second dependent variable, *Bond Issuance*, comes from Ballard-Rosa, Mosley and Wellhausen (2021). The authors provide monthly data on whether or not a given state issued a bond beginning in 1990. We annualize the data and measure the time from the end of the debt restructuring episode to the first time a defaulted government is successfully able to issue a new bond. While the temporal range of our sample shrinks due to data coverage, this allows us to capture the length of capital market exclusion in a clear and easily observable way.¹¹

Second, default and subsequent restructuring should also affect the cost (interest rate) at which governments borrow. Due to constraints measuring costs in the primary market, we follow Cruces and Trebesch (2013), who model punishment in secondary international financial markets. A much broader literature also uses the secondary market to understand changes in risk overtime (Longstaff et al. 2011, Brooks, Cunha and Mosley 2015, Wellhausen 2015, Beaulieu, Cox and Saiegh 2012). We use JP Morgan's Emerging Bond *Spreads*, as is made available through the World Bank. Sovereign spreads capture the difference between the yield on a particular country's long term bond and a long term US government bond, as the latter is considered a risk-free comparison. Higher spreads imply more risk. While the sample of countries is again temporally constrained to the 1990s and 2000s, it is the most commonly used measure of government borrowing costs.

Control variables Our empirical strategy relies on controlling for factors that may confound the relationship between US support and debt crisis outcomes. We pay particular attention to cases where the characteristics of whether a state enters a crisis and how the financial market perceives states' creditworthiness as a consequence of a crisis are the same characteristics that predict the strength of US support. This should minimize concerns that our findings are driven by inherent economic differences between supported and non-supported states. Because our sample is primarily made up on developing countries, we also prioritize parsimony and maintaining the largest cross-sectional and temporal sample.

¹¹Data available on our independent and dependent variables thus limits our second empirical test to a 1990-2012 sample.

To begin, we control for the size of a state's economy with data on *GDP* (log). Larger states offer larger economic markets that are attractive to American firms and offer states more resources to manage debt issues. Similarly, we control for a countries' wealth using *GDP per capita* (log). We also control for *Trade* (% GDP, log) as it increases the demand for American dollars. States that trade may also be more motivated to maintain debt obligations (Rose 2005). Data on all three variables comes from the World Bank (World Bank 2019).

We include several additional economic variables. First, we control for *Natural Resource Wealth* (% GDP) from the World Bank. Oil and other natural resources are important components to the American economy, incentivizing the US to develop strong relationships with resource abundant countries. In addition, natural resources provide states non-taxable income with which to manage their debt issues. Second, we include a country's public and publicly guaranteed external *Debt* (% GDP). Higher indebtedness increases the likelihood of encountering a debt crisis and may also make a state a less attractive strategic partner.

We also control for political institutions in the borrower state. There is a robust literature that connects democracy to debt behavior. Democracies are more prone to crises, yet receive borrowing advantages in the lending market (Beaulieu, Cox and Saiegh 2012, Lipsy 2018, Ballard-Rosa, Mosley and Wellhausen 2021). Democracies may be more attractive partner states to the US as well (McDonald 2015). Democratic institutions afford protections of property rights for American investments abroad, along with providing more credibility to security agreements (Leeds 1999, Diguseppe and Poast 2018).

We further control for the political ideology of the borrowing country's leader. Right-leaning leaders typically represent the interests of the financial sector and consequently enact more market-friendly policies. The U.S. has historical ties to supporting right-leaning leaders, who enact policies favorable to American business interests abroad. Data on whether a leader is right-leaning comes from the Database of Political Institutions (Scartascini, Cruz and Keefer 2021).

Finally, we control for whether a country accepts IMF credits. The IMF often pushes defaulting countries to return quickly to international bond markets. They also promote institution building,

for example, central bank independence, which should lower risk premiums (Kern, Reinsberg and Rau-Gohring 2019). Because, the interests of the U.S. and the IMF are intertwined (Oatley and Yackee 2004, Dreher and Jensen 2007), we include data on IMF creditors from the World Bank (World Bank 2019).

5 Results

5.1 US Support and default

We begin our analysis by examining the likelihood that a state is forced to restructure their debt conditional on American support. The primary dependent variable, *Restructuring*, is binary (0,1) so we rely on logistic regression with the set of potentially confounding variables introduced above. For this empirical test we include several additional elements. First, we include country fixed effects to focus on within-country variation, while controlling for time invariant confounders. The US may support states based on time-invariant characteristics – such as geography – that also affects their connection with the global financial market. Unit fixed effects allows us to block these potential confounding paths.¹² Second, we include linear, squared, and cubic time since a country last entered a debt crisis, following Carter and Signorino (2010). These are intended to address both linear and non-linear temporal dependencies in the data. Third, we limit our analysis to non-OECD countries to focus on developing countries. We expect that more developed countries have characteristics, such as wealth and capacity, that would mitigate the effects of US support.

Table 1 presents our first set of results. Model 1 provides a baseline and Model 2 includes our full set of controls.¹³ In both models, the effect of US support is positive, significant and substantively large. US support increases the likelihood that a borrower state will enter debt restructuring.

¹²One downside of using unit fixed effects for our model is that states with time invariant outcomes (i.e. never default) are dropped from the sample. To ensure that this sample selection process is not affecting our inferences, we also run linear probability models and models focused on both within and between variation clusters (Zorn 2001). We find similar results. The full results and related discussion can be found in Appendix F.

¹³Because US support is set by one country, it is not clear if should cluster standard errors. To ensure that this decision does not affect our results, we cluster on country, year, and country-year in Appendix G and find that the non-clustered standard errors are the most conservative.

Because coefficients in a logistic regression are not easily interpretable, the left panel in Figure 3 graphs the predicted probability of a restructuring across values of US support based on Model 2. Holding all other covariates at their mean, the likelihood of entering a restructuring negotiation at the mean level of US support (ex. Costa Rica in the 2010s) is approximately 5%. As US support increases to one standard deviation above the mean (ex. Ukraine in the 2000s), the probability of restructuring rises to 8%. At two standard deviations above the mean (ex. Egypt in the 2010s), the probability exceeds 10%.

Table 1: US Support and the Probability of Debt Restructuring

	Baseline	Controls	Default	Default Controls
U.S. Support	0.571** (0.241)	0.624** (0.265)	0.449* (0.250)	0.792** (0.396)
IMF Credit		1.094** (0.468)		1.385** (0.558)
Right Leader		0.089 (0.335)		0.228 (0.424)
GDP per capita, log		1.308 (1.191)		5.023** (1.589)
GDP, log		-2.524** (0.679)		-4.426** (1.058)
Trade, log		0.062 (0.469)		-1.284** (0.583)
Debt (% GDP)		0.003 (0.003)		0.028** (0.009)
Resource Rents		-0.024 (0.024)		-0.056 (0.036)
Democracy		0.021 (0.729)		-0.441 (0.797)
Years Since Crisis		-0.060 (0.077)		0.000 (0.119)
Constant	-2.794** (0.150)	52.182** (14.440)	-2.719** (0.152)	78.726** (20.820)
Log-Like	-573.15	-424.17	-511.12	-305.93
N	2343	1716	1853	1242

* $p < 0.10$, ** $p < 0.05$; All models include unit fixed effects. Cubic and squared time spline estimates not shown. Standard errors clustered on country reported in parentheses.

Models 3 and 4 uses Reinhart and Rogoff (2008)'s measure of default as an alternative measure of the dependent variable. While most debt crises enter into some type of restructuring deal, they

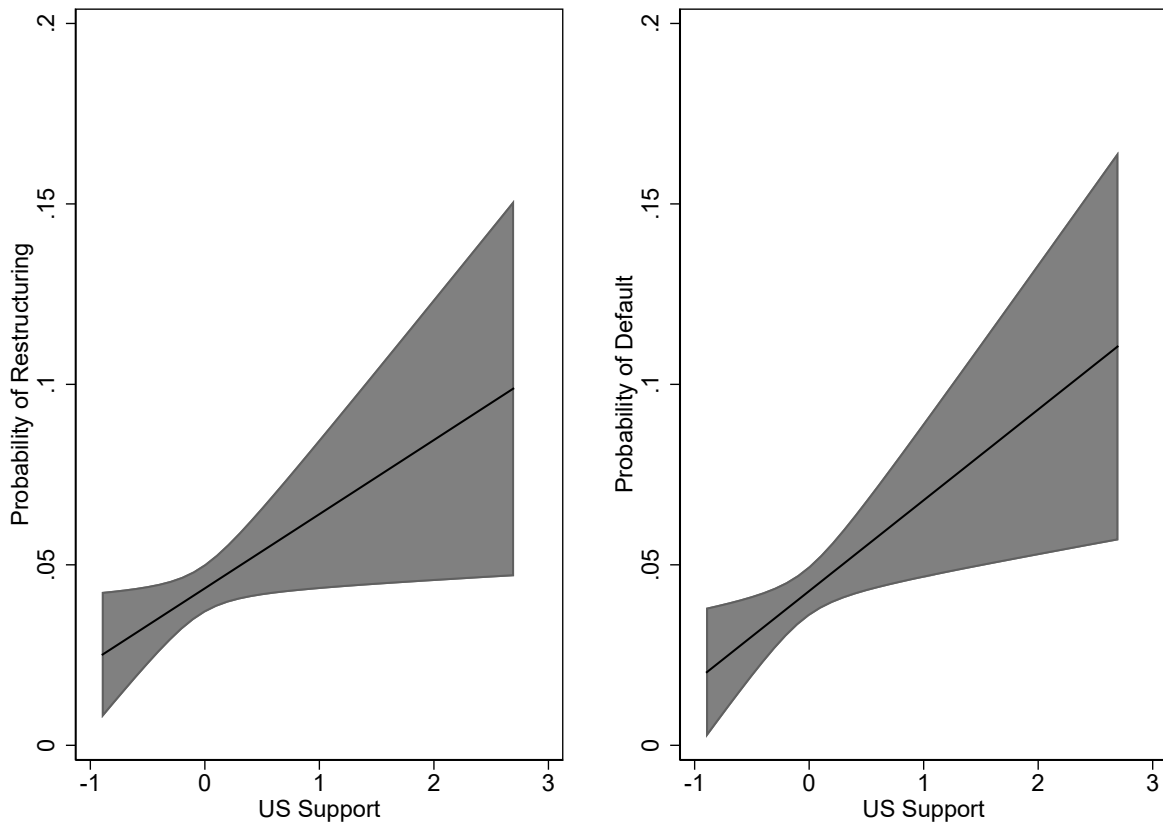


Figure 3: Probability of restructuring or default conditional on US support, 1970-2012

do not necessarily have to. In addition, some states use default as a bargaining tactic in order to gain better terms in a debt restructuring deal, while others do not (Asonuma and Trebesch 2016). Default does not happen uniformly (Ferry 2023). To ensure that we are not picking up on some of these strategic elements by only focusing on restructuring events, Model 3 examines default. Model 4 adds in our controls. The results are similar. US support increases the likelihood of default, as shown in the right panel in Figure 3. Increasing US support from the mean to one standard deviation above the mean increase the likelihood of default by 66% (3.5% to 5.8%).¹⁴

¹⁴We also confirm in Appendix E that US support does *not* decrease the risk of serial default. There is no evidence that US supported states can only get away with default once before being punished.

5.2 US support and market exclusion

Default and restructuring episodes demonstrate that states will not always repay all their obligations, which should make lenders wary to provide new lines of credit. As a result, we expect that states with restructuring episodes to be excluded from bond markets for longer periods of time. However, within the sample of restructuring crises, we expect that US supported states will face fewer consequences. US support makes even defaulting states appear more creditworthy in international capital markets. Therefore, *among defaulting states*, capital market exclusion should be shorter when the borrower is important to the United States.

To measure this exclusion, we count the number of years from the end of a restructuring crisis to the time the state issues its next bond in the primary market, using Ballard-Rosa, Mosley and Wellhausen (2021)'s data. A country becomes "at risk" in the year it finalizes a restructuring and "fails" when it floats its first new international bond. Therefore, for this test, our sample only includes defaulting states. To capture the duration of exclusion, we rely on a Cox proportional hazards model and analyze the time dynamic. The Cox proportional hazards model doesn't assume a specific form for the underlying hazard and estimates the hazard rate of failure (issuing a new bond) as a function of a baseline hazard and the covariates (Box-Steffensmeier and Jones 2004).

Results are reported in Table 2. We report non-exponentiated coefficients rather than hazard ratios for ease of interpretation. Positive coefficients imply faster failure, or less time to issue a new bond. Therefore, positive coefficients mean shorter exclusion. We expect that US supported states should experience less punishment, shorter exclusion, and this is indeed what we find. The coefficient estimate for US support is positive and significant for our baseline (Model 1) and main (Model 2) models. US supported states are more "at risk" of entering the bond market post-default.

These findings suggest that one reason for the difficulty identifying market punishment following default is that punishment is uneven. Some defaulters are punished more than others, and this depends on political relationships. Cruces and Trebesch (2013) make a similar argument; Defaulters who force greater losses on creditors are punished longer. To ensure that the heterogeneous effects identified by Cruces and Trebesch (2013) do not obscure our focus on political relation-

ships, we include a measure of the final haircut for each restructuring deal. Controlling for the size of creditor haircuts, US support continues to have a positive effect on entering the bond market among defaulting countries.

Table 2: US Support and Market Exclusion

	Baseline	Controls	Haircut
U.S. Support	0.980** (0.400)	8.732** (3.173)	9.328** (2.136)
Haircut Size			-0.018 (0.028)
IMF Credit		-0.640 (1.177)	-0.362 (1.300)
Right Leader		-7.490** (2.203)	-8.045** (2.222)
GDP per capita, log		-0.210 (0.275)	-0.944 (1.224)
GDP, log		-1.158* (0.667)	-1.206** (0.539)
Trade, log		6.314** (1.286)	6.144** (1.311)
Debt (% GDP)		-0.003 (0.011)	-0.007 (0.017)
Resource Rents		-0.156** (0.032)	-0.117** (0.047)
Democracy		-20.383** (5.085)	-19.152** (5.128)
Log-Like	-21.41	-12.62	-12.39
N	115	105	105

* $p < 0.10$, ** $p < 0.05$; Standard errors clustered on country reported in parentheses.

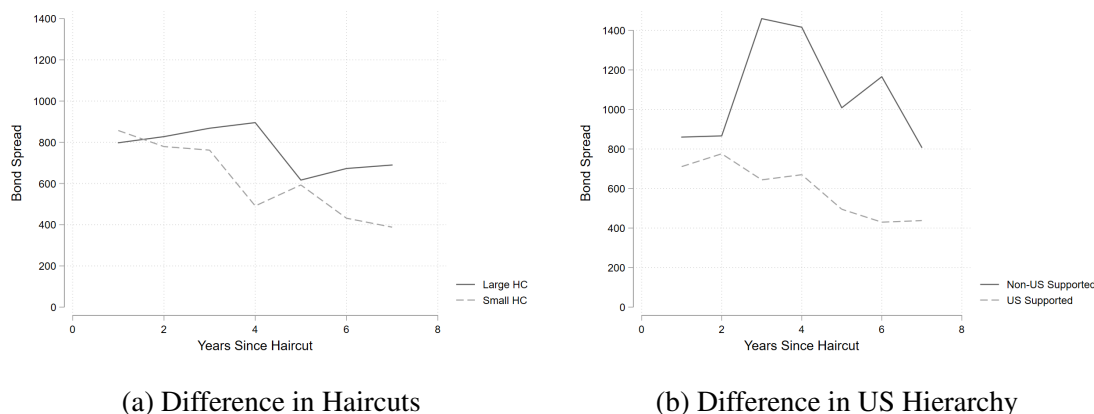
5.3 US support and the cost of credit

Finally, we examine how secondary bond markets react to states exiting restructuring episodes. Default should increase states' cost of credit as investors charge higher risk premiums to compensate for past losses. We hypothesize that US support should ameliorate this effect. Among defaulting states, US supported states should borrow at cheaper rates than non-US supported states. To in-

investigate this hypothesis, we use emerging bond market spreads from JP Morgan’s EMBI Global Bond Index.

We start descriptively. As a way to assess the importance of US support in post-default bond pricing, we replicate Cruces and Trebesch’s (2013) comparison of those states that negotiated above or below mean haircuts. Consistent with the authors, Figure 4a shows that states with larger haircuts have higher bond spreads following restructuring. When we compare US supported states to non US supported states (using the mean as the delineator) in Figure 4b, we find a much larger distinction. Non-US supported states experience much larger bond spreads following the conclusion of a restructuring deal. Interestingly, the difference between supported and non-supported states persists for at least 7 years post restructuring (the end of Cruces and Trebesch (2013)’s investigation window) and is larger than the effect of haircut size.

Figure 4: **Emerging Market Bond Spreads**



We also analyze the role of American support in a more systematic way. We regress bond spreads on US support, while controlling for potential confounders discussed above. We use OLS regression and include unit fixed effects ¹⁵ We also include a dummy variable for the Great Recession in 2008 and 2009.

We first look at the full sample of countries for which we have data. Our data covers the years 1997-2012 and includes 39 countries, 25 of which experienced a restructuring. Model 1 in

¹⁵See Appendix F for analyses of within and between variation clusters. Results are robust.

Table 3 examines all countries as a way to assess the general effect of US support on secondary market bond pricing. We observe a negative relationship between US support and bond spreads, meaning that debt is perceived to be less risky. Substantively, a standard deviation increase in US support decreases bonds spreads by 119 basis points. Model 2 more closely matches our theoretical argument. It limits the sample to only those 25 countries that experienced a restructuring, thus allowing us to compare US supported defaulters to non US supported defaulters. We observe a similar relationship as Model 1, but now the substantive effects are larger. A one standard deviation increase in US support decreases bond spreads by 178 basis points. Following a restructuring event, US support decreases the perceived riskiness of sovereign bonds, as compared to “risk-free” US government investments. Finally, Model 3 limits the sample further, examining only the first seven years after a restructuring event, following Cruces and Trebesch’s (2013) analysis. We find consistent results and our largest substantive effects. The punishment for US supported states, in terms of borrowing cost, is significantly lower than non supported states.

One issue with the OLS analysis is the relationship between US support and bond yields may be subject to endogeneity bias if unobserved confounding variables simultaneously influence both factors. Borrowing countries are not passive recipients of US support; rather, they may actively seek advantageous credit terms and may strategically leverage their relationship with the US to secure better borrowing conditions. Consequently, any observed level of US support might reflect, at least in part, a country’s deliberate efforts to shape market perceptions of its creditworthiness. To mitigate potential endogeneity concerns and isolate the causal effect of US support on bond yields, we complement our main analysis with an instrumental variable (IV) approach.

To instrument for U.S. Support, we employ a shift-share or Bartik estimation strategy (Goldsmith-Pinkham, Sorkin and Swift 2020). This approach consists of two components. First, we identify a “shift” variable that explains the “supply” of US support but is plausibly exogenous to bond yields. We propose the federal funds rate set by the US Federal Reserve as a candidate IV. We anticipate that when the funds rate is lower, the U.S. will have access to cheaper credit and, consequently, greater fiscal capacity to support other states. Conversely, when borrowing costs are high, the U.S.

Table 3: US Support and Bond Spreads

	OLS Models			IV Models		
	Full Sample (1)	Post-Restructure (2)	Post Restructure (1-7) (3)	Full Sample (4)	Post-Restructure (5)	Post Restructure (1-7) (6)
U.S. Support	-114.391* (57.426)	-179.946* (34.951)	-183.407* (55.030)	-296.080* (112.616)	-468.710* (74.543)	-217.788* (78.080)
IMF Credit	-61.220 (179.223)	113.851 (117.262)	-166.492 (234.363)	-8.395 (181.693)	203.477 (134.224)	-182.618 (219.675)
Right Leader	208.512* (81.785)	66.371 (58.615)	-98.648 (93.366)	200.012* (82.023)	44.457 (66.546)	-94.931 (87.052)
GDP per capita, log	-1756.971* (629.824)	-1106.278* (402.102)	-3871.541* (901.582)	-1793.499* (631.145)	-985.148* (456.387)	-3778.188* (853.507)
GDP, log	622.323 (474.720)	197.834 (310.815)	2257.454* (725.988)	427.376 (487.094)	-274.366 (367.327)	2123.645* (713.024)
Trade, log	312.746 (171.704)	9.150 (115.708)	-658.716* (232.186)	349.606* (173.072)	-5.980 (131.062)	-660.264* (215.918)
Debt (% GDP)	8.001* (1.318)	6.208* (1.235)	6.569* (2.257)	7.713* (1.330)	5.160* (1.420)	6.460* (2.107)
Democracy	972.858* (378.811)	310.220 (221.009)	-288.483 (352.087)	1116.702* (386.975)	605.609* (258.450)	-207.764 (355.468)
Resource Rents	-25.542* (8.424)	-13.550* (4.645)	-7.239 (9.050)	-25.743* (8.437)	-12.528* (5.265)	-7.032 (8.422)
Great Recession	314.420* (66.020)	321.635* (42.239)	357.942* (82.286)	361.889* (70.785)	393.379* (50.337)	366.056* (77.770)
<i>2SLS: First Stage</i>						
US Fed Funds Rate				-0.677 (0.994)	-2.429* (1.356)	-5.390 (5.447)
Echelon2				0.150** (0.074)	0.404** (0.141)	0.226 (0.631)
FFR * Echelon				0.034 (0.024)	0.037 (0.046)	-0.080 (0.332)
<i>2SLS: Diagnostics</i>						
Anderson-Rubin χ^2 test				19.73*	116.90*	30.49*
Stock-Wright LM S statistic				18.69*	75.10*	34.40*
R2	0.28	0.48	0.62	0.26	0.30	0.62
N	395	236	89	393	234	86

* $p < 0.05$; All models include unit fixed effects. Standard errors reported in parentheses.

may find it more challenging to provide support to other nations. The federal funds rate is plausibly exogenous, as it is determined by central bank officials whose primary objectives are to manage inflation and the broader U.S. economy. In theory, changes in the federal funds rate should not directly affect developing countries' bond spreads, as any increase in the funds rate should lead to a proportional rise in other countries' bond prices, *ceteris paribus*. However, we acknowledge that other economic or temporal factors may influence both the Fed's decisions to adjust the funds rate and the economic conditions of other countries. Ideally, to mitigate this concern, we would include year fixed effects to control for any time-varying confounders. Unfortunately, this is not feasible in our design, as the federal funds rate does not vary across units within a given year.

To address this limitation, the second component of our estimation strategy involves interacting the "shift" variable with a "share" component, which represents a country's propensity to receive

U.S. support. For this component, we draw on Aklin and Kern’s (2019) IV strategy, which utilizes the “echelon” corridor of states forming the path from US conflict zones (Iraq and Afghanistan) to military hospitals in Germany.¹⁶ We expect that states within this corridor are more likely to receive U.S. support. The interaction between the federal funds rate and the echelon corridor offers two key advantages. First, it allows us to model the heterogeneous effects of changes in the funds rate across countries. Second, it introduces within-country variation over time, enabling us to incorporate both country and year fixed effects in our models. This design feature helps to control for factors that might otherwise violate the exclusion restriction.

We replicate the OLS models in Table 3 using the instrumental variable approach. In terms of the coefficient of interest, we find consistent results in the IV models as the OLS models: U.S. support decreases bond yields for borrowing countries, even in the aftermath of a default. Diagnostic tests also suggest a strong relationship between the instruments and U.S. Support.

Overall our empirical analysis shows that states supported by the United States are more likely to enter a debt crises, face more favorable lending conditions in post-default bond markets and re-enter bond markets more quickly than non-supported states after a debt crisis. These results point to the importance of international politics when explaining fiscal decisions and state-investor dynamics. Borrowers’ decisions to repay and creditors’ decisions to reestablish lending take place in the shadow of great power politics. The Appendix examines the robustness of the results in a myriad of ways, including examining between and within variation models, repeat defaulters, and disaggregated US support indicators. These analyses provide similar inferences as the main results, and are discussed in more detail in the Appendix.

6 Conclusion

Theoretically, markets should punish states that do not uphold their debt obligations. Previous work suggests that this isn’t always the case. In this study, we propose one potential answer for

¹⁶Following Aklin and Kern (2019) and DiGiuseppe and Shea (2022), we exclude countries in direct proximity to Iraq and Afghanistan, to avoid spillover effects of conflict.

this disconnect. We argue that international geopolitical relationships shape states' incentives for debt management. These same relationships affect how markets perceive the creditworthiness of borrowing states, even after default. We find that US supported states are more likely to restructure their foreign debts with private creditors. In addition, US supported states largely avoid the negative and punitive consequences of restructuring. After default, supported states face lower bond spreads and shorter wait times to reenter the bond market, as compared to non supported states. Our results suggest that the benefits of US support extend further than previously realized, particularly in the realm of sovereign debt dynamics.

Scholars have examined the role of a myriad of international factors with implications for sovereign debt, including international reputation, contagion effects, international organizations, among others (Tomz 2007, Brooks, Cunha and Mosley 2015, Gray 2013, Cohen 2017, Chaudoin and Milner 2017). While not the first to focus on international factors, we use international political dynamics to explain an important theoretical and empirical disconnect. Where past work points to restructuring dynamics (Cruces and Trebesch 2013), we point to politics. We not only hope to add to political approaches by focusing on political and security relationships rather than just economic relationships, but we also think our argument speaks to other international dynamics in debt. For example, the lending policies of the World Bank or IMF condition how states address debt problems (Lipsky and Lee 2019) and those lending policies are shaped by the US and other powerful states (Dreher, Sturm and Vreeland 2009).

Our work thus shifts scholarly attention to two actors: creditors and powerful third parties. To the former, states are not the only ones that fall prey to moral hazard. Investors too, fall into this trap, even if, traditionally, less blame gets placed on their doorstep. Making the moral hazard problem harder to resolve, states' decisions to default are not based just on their expectations of assistance but are reinforced by creditors' lack of punishment. This shift in focus raises new questions about creditors' decision making capabilities. Why would creditors provide cheaper credit to US supported states when these states are also more likely to default? Are creditors irrational? While we can't adjudicate between potential explanations in the context of this paper, one potential

explanation is that creditors are boundedly rational. They are time and information constrained in managing their vast portfolios. It may be that creditors recognize the additional resources US support can bring to bear for post-default states, while also underestimating the likelihood of recurring crises. This may be because of herding behavior, the search for yield, or global push factors (Reinhart and Rogoff 2008, Naqvi 2019, Morsy et al. 2021). Another possible explanation is that the creditors evaluating post-default creditworthiness are not the creditors affected by default. The majority of bondholders acquire debt in the secondary market and do not hold it until maturity. As, Walker and Faye (2010, 320) note, “if the private debt of the borrower was previously restructured, some existing creditors have participated...but most will not have.” In this case, it may be rational, but perhaps irresponsible, for new creditors to lend to countries that just restructured and received debt relief (Bunte 2018).

While we focus on private holders of sovereign debt, other economic actors may be similarly affected by geopolitical relationships. For example, in her analysis of the relationship between expropriation and sovereign debt, Wellhausen (2015) demonstrates that the states sometimes use one investment (FDI) to help pay off another (bonds). US support may be designed to address this dynamic. For example, when the United States guaranteed a \$1 billion private loan to Iraq during its debt crisis, the US specified that Iraq must pay arrears to the Basrah Gas Company, which is partially owned by the Shell Oil Company. Thus financial support was designed to help protect foreign direct investors and not necessarily help compensate bond holders. As current debt restructurings in Sri Lanka and Zambia suggest, US support may also be more about countering the growing influence of India and China. US bailouts can be used to meet a myriad of strategic goals, including bringing emerging markets back under US influence. Here, improvements in credit market access for these recently defaulted countries would be an unintentional byproduct of deeper geopolitical relations. More research, particularly on who the creditors are and which aspects of geopolitical relationships are most informative, is needed to fully flesh out the implications for international investors of all types.

Finally, we limit our focus to private lenders and the United States. Yet, the sovereign lending

market is full of different actors: private investors, international organizations, and other states. In the latter category, Chinese lending has transformed the official debt market. Do geopolitical relationships with other official creditors shape debt dynamics in similar ways? While we believe that, theoretically, geopolitical support from any powerful partner can imply fiscal transfers and increase the likelihood of bailouts, it is an empirical question whether or not states and markets find this signal credible. The US has a longstanding track record of support. In other cases where relationships have been less tested, the meaning of political ties is less clear. To better understand the role of third parties, we must acknowledge that there are multiple, overlapping, relationships that shape debt dynamics.

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Appendix: Crises and Consequences: The Role of U.S. Support in International Bond Markets

Contents

A US Support and Foreign Aid	2
B US Support and Bilateral Bailouts	3
C US support	4
D Selection model	6
E Repeat Offenders	7
F Between and Within Variation Model Specification	8
G Standard Errors Clustering	9
H Individual US signals	10
I Illustrative Case: US-Pakistan Relations	11

A US Support and Foreign Aid

Table 1: US Economic and Military Aid

	(1) Economic Aid	(2) Military Aid
US support (t-1)	156.088*** (8.294)	212.571*** (4.537)
N	4542	4542
Year FE	Y	Y
Country FE	Y	Y

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

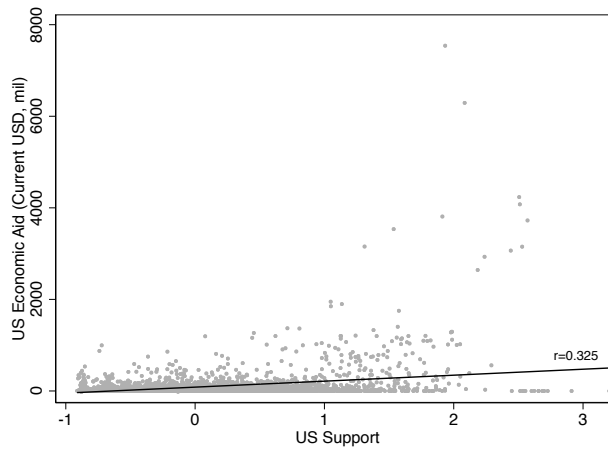


Figure 1: US Economic Aid

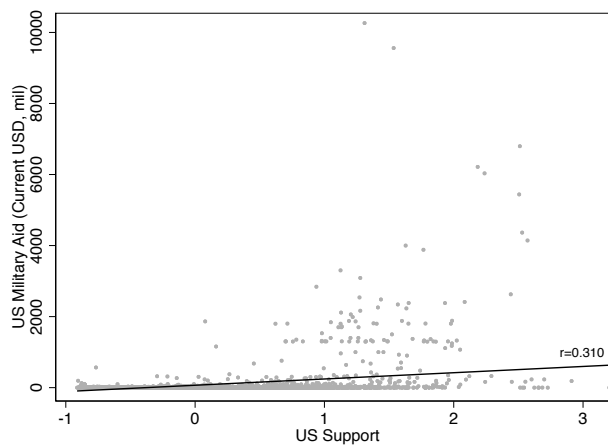


Figure 2: US Military Aid

B US Support and Bilateral Bailouts

Table 2: US Bilateral Bailouts

	(1) Bilateral Bailout
US support (t-1)	1.646*** (0.516)
Year	-0.010 (0.049)
N	97

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

C US support

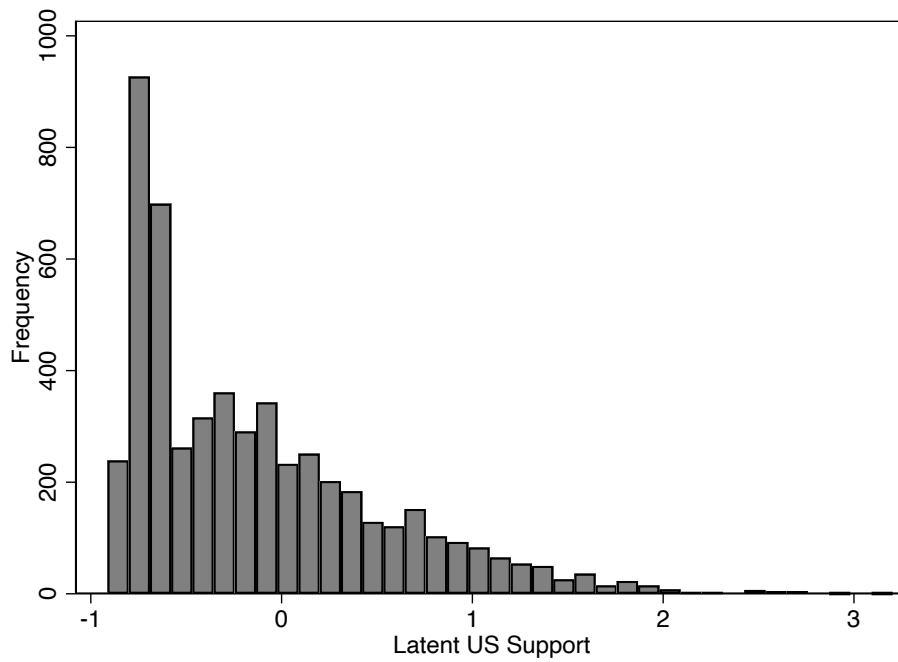


Figure 3: Latent US support

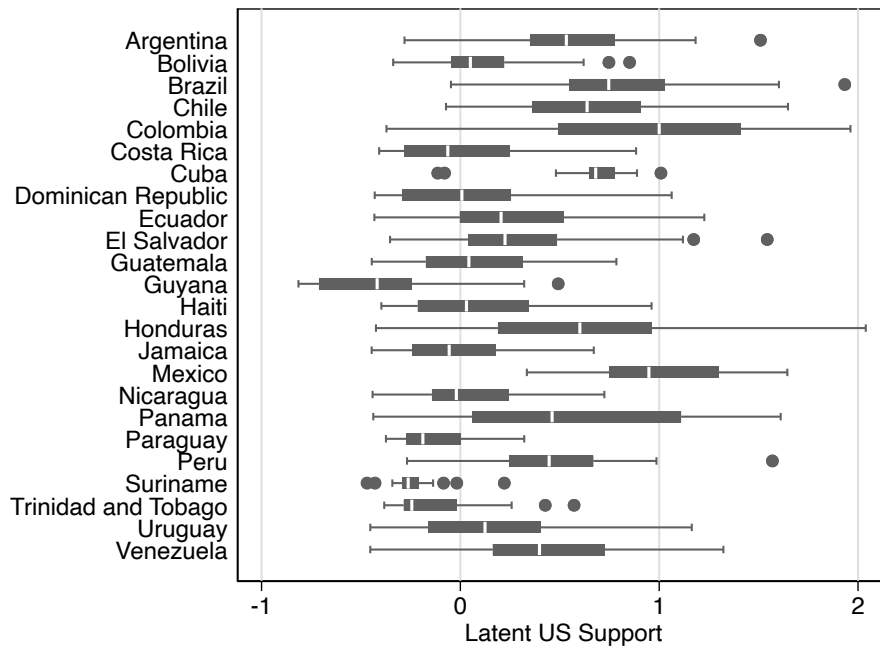


Figure 4: Latent US support by country in Latin America

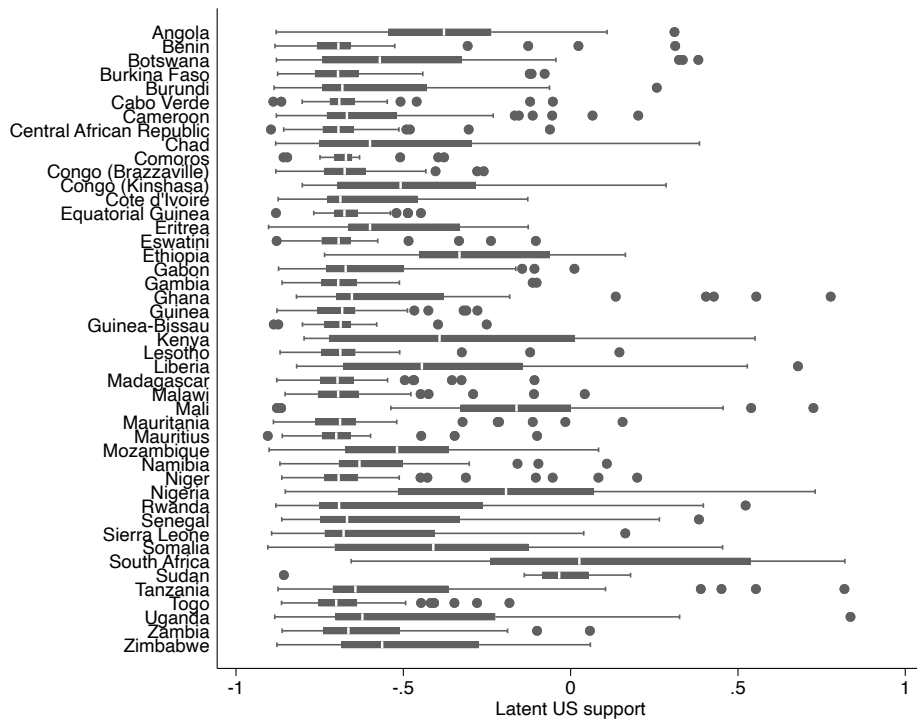


Figure 5: Latent US support by country in Sub-Saharan Africa

D Selection model

This section examines whether states decisions to default or restructure their debt affects the relationship between US support and bond spread. Using a Heckman selection model, we regress a country's bond spread as a function of US support, a set of covariates, and the selection into the default sample to begin with. Essentially, this is a replication of model 2 from Table 3 in the manuscript, but we add in the selection information as an additional control.

The first stage in the selection model examines whether an observation is "selected" into a post-restructuring state or not. These countries restructured their debt at least once. For the covariates, we focus on US support and the main controls from the manuscript. In addition, we need a valid instrument that meets the exclusion restriction of a Heckman selection model. Since selection into restructuring and bond prices are linked, we need a variable that is only related to the selection stage and not the outcome stage. We identify the federal funds rate set by the US Federal Reserve as a candidate IV. The funds rate affects the demand for US dollars, making it more difficult for countries to acquire dollars for their reserves and imports. The federal funds rate should not affect developing countries' bond spreads as any raise in the funds rate should result in an equal increase in other countries' bond prices, all else equal. Of course, other economic or temporal phenomena may affect both the Fed's decisions to change the funds rate and also affect other countries economies. To address this, we interact the federal funds rate by a countries' reliance on imports. We also include year fixed effects to account for any temporal confounds. The resulting interaction is akin to a shift-share instrument, exploiting the within unit and temporal variation, while accounting for temporal heterogeneity.

The results of the selection model are found in Table 3. US support continues to have a negative effect on bond spread for developing countries, thus our inferences are consistent as the main analysis in manuscript.

Table 3: Selection model

	Outcome (1)	Selection (1)
U.S. Support	-126.691* (66.902)	-0.108 (0.094)
GDP per capita, log	-86.925 (70.953)	-0.092 (0.064)
GDP, log	-34.710 (50.817)	0.978** (0.086)
Trade, log	-201.609* (120.584)	0.264* (0.145)
Democracy	-386.912 (317.537)	2.910** (0.318)
Debt (% GDP)	11.375** (1.590)	0.004** (0.002)
Resource Rents	7.001 (4.270)	0.004 (0.005)
US Fed Funds Rate		-0.190 (6.756)
Imports		-0.134** (0.018)
Imports X Fed Funds		-0.027** (0.007)
Constant	3001.238* (1719.235)	-26.141** (2.534)
Log-Like	-2277.93	
N	1072	

E Repeat Offenders

This section examines the question of whether US support decreases the likelihood of repeat offenders. While US support increases the likelihood of default, it may be the case that supported states can only get away with this once before being punished by the US. We examine a sample of already defaulted states (i.e. each observation has experienced at least once default). We find no evidence that US supported states are less likely to default after their initial default. See Table 4.

Table 4: Repeat Defaulters

	Repeat default
U.S. Support	0.026 (0.020)
GDP per capita, log	0.272** (0.072)
GDP, log	-0.300** (0.063)
Trade, log	0.051 (0.038)
Debt (% GDP)	-0.000 (0.000)
Resource Rents	0.001 (0.002)
Democracy	-0.121* (0.067)
Years Since Crisis	-0.010 (0.007)
Constant	5.006** (1.062)
Log-Like	20.66
N	1289

F Between and Within Variation Model Specification

The main analysis focuses on within variation of countries by using country fixed effects. One problem for the analysis focused on restructuring cases and default is that fixed effects will drop observations that have no variation on the dependent variables. To demonstrate that this sample selection issue does not change our main inferences, we show that our results are robust to various model specifications that focus on within-variance inference. Model 1 in Table 5 reports the logit model from the manuscript (model 2 in Table 2) as a baseline comparison (controls are used but not shown). Model 2 in Table 5 uses a linear probability regression model (LPM) with country fixed effects as an alternative. The sample size nearly doubles though the substantive and statistical inference remains the same. Recent research suggests the LPM model provides more accurate estimates (Timoneda 2021). The LPM model shown in model 2, however, should not only be compared to model 1 (Beck 2020). Instead, Beck (2020) suggests that the LPM model be analyzed on the same sample as the logit model (i.e the observations that have variance in the dependent variable). We show that specification and we see that the effect of US support doubles in size, suggesting that the estimates in model 2 are conservative.

We continue the analysis by comparing the within variation (an observation's value of US support compared to the unit's mean value) and the between variation (an observation's unit mean value (Zorn 2001)). Model 4 Table 5 shows that the within variation of US support matter to explaining the propensity to restructure a country's debt (model 1), while the between variation does not (the within and between control variables are included, but not shown). We extend the analysis to defaults in model 5 and find similar results. Conversely, both the within and between variation help explain bond yield spreads in model 6. In summary, the results in Table 5 show that our inferences are robust to various model specifications. In addition, the results show that our focus on within country variance is justified.

Table 5: Within and Between Variation

	Restructure Logit (1)	Restructure LPM (2)	Restructure LPM (3)	Restructure Logit (4)	Default Logit (5)	Bond Spread OLS (6)
U.S. Support	0.626** (0.263)	0.021** (0.010)	0.043** (0.019)			
U.S. Support (Between Var)				-0.257 (0.262)	-0.332 (0.285)	-263.505** (75.952)
U.S. Support (Within Var)				0.569** (0.227)	0.594** (0.263)	-120.977** (58.277)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
N	1717	3363	1717	3363	2958	395

** $p < 0.05$ * $p < 0.1$; Standard errors reported in parentheses. Control variables not shown.

G Standard Errors Clustering

While the structure of the data in this study is cross-sectional time-series, it is unclear whether the standard errors should be clustered at the country level in the main analysis because US support is determined by the United States. We expect that the levels of US support are driven mostly by system level factors. To ensure that our assumptions do not affect our inferences, we show various clustering specifications in Table 6. Model 1 in Table 6 reports the logit model with no clustered standard errors from the manuscript (model 2 in Table 1) as a baseline comparison (controls are used but not shown). Model 2 clusters on country. We observe a minimal decrease in the standard error for the US support estimate. Model 3 clusters on year, which produces a much smaller standard error. Model 4 clusters on country-year, which decreases the standard error more than model 2 but less than model 3. Model 5 replicates the default analysis with country-clustered standard errors. Model 6 reexamines bond yield spreads in model 6 with country-clustered standard errors. Both models produce similar inferences as the main analysis in the manuscript. In summary, these results increase our confidence that the standard errors reported in the manuscript accurately account for the uncertainty in our estimates.

Table 6: Clustered Standard Errors

	Restructure No Clustering (1)	Restructure Country Clustering (2)	Restructure Year Clustering (3)	Restructure Country-Year Clustering (4)	Default Country Clustering (5)	Bond Spread Country Clustering (6)
U.S. Support	0.626** (0.263)	0.626** (0.262)	0.626** (0.187)	0.626** (0.221)	0.827** (0.387)	-119.005** (55.461)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
N	1717	1717	1717	1717	1243	395

** $p < 0.05$ * $p < 0.1$; Standard errors reported in parentheses. Control variables not shown.

H Individual US signals

The measure of *US Support* from McManus and Nieman (2019) relies on observable indicators of leader visits, alliances, military exercises, statements of support, arms transfers, troop deployment, and nuclear deployment through 2012.¹ These indicators, when considered together, provide a comprehensive picture of the level of support the United States offers to other countries. However, it is important to note that selecting a single indicator may not accurately reflect the true level of support, as governments do not choose their method of support randomly. For example, the absence of a formal alliance between the US and Israel since 1991 does not necessarily indicate a lack of support from the US towards Israel.

With the limitation of individual signals in mind, we further investigate the impact of these individual signals on bond yield spreads for transparency and exploratory purposes. We replicate model 1 from Table 3, using each signal separately.² Table 7 presents the results of this analysis. We observe that US troop deployments and US statements of support lower bond yields for countries, suggesting that these signals are perceived as clear indicators of US support by financial markets. The other signals, such as leader visits, alliances, military exercises, and arms transfers, have a null effect on bond yields when considered individually. We suggest caution when interpreting the results from these individual signals, as they may not provide a complete picture of the US support for a given country. The measure of US Support by McManus and Nieman (2019) addresses this issue by combining multiple observable indicators, thereby offering a more comprehensive and reliable assessment of the level of support the United States provides to other countries. We argue that the latent measure is the most appropriate measure.

Table 7: US Signals of Support and bond yields

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
US Arms	0.336 (0.317)						0.146 (0.307)
US Exercise		41.284 (60.096)					65.179 (57.571)
US Pact			347.648 (210.209)				360.407 (201.509)
US Troops				-0.007* (0.003)			0.006 (0.004)
US Visit					20.889 (78.944)		145.459 (78.515)
US Words						-2.346* (0.427)	-3.255* (0.621)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.27	0.27	0.28	0.29	0.27	0.33	0.35
N	395	395	395	395	395	395	395

** $p < 0.05$ * $p < 0.1$; Standard errors reported in parentheses. Control variables not shown.

¹Leader visit and leader statement (US words) data comes from McManus (2018). Alliance data comes from Gibler (2008). Troop data is from Braithwaite (2015). Military exercises data is from D’Orazio (2016). Arms sales data is from SIPRI (N.d.). Nuclear deployment data is from Fuhrmann and Sechser (2014). For more information on these measures, please refer to McManus and Nieman (2019).

²We do not include the nuclear weapon deployment signal, as it does not vary by country, and thus drops out because of collinearity with the country fixed effects.

I Illustrative Case: US-Pakistan Relations

Following the end of the Cold War, Pakistan's importance to US foreign policy waned. Tensions between the US and Pakistan increased in the 1990s due to Pakistan's nuclear development, Pakistan's relationship with the Taliban, and the US' deepening relationship with India. Emblematic of this deepening distrust was the US' failure to ratify the Pressler amendment, which made economic and military assistance conditional on Pakistan's termination of its nuclear program. As shown in Figure 1, US aid to Pakistan during this period was essentially zero. Following Pakistan's nuclear test in May 1998, the US and other countries imposed formal sanctions, which served to exacerbate Pakistan's economic difficulties. The cut-off of bilateral assistance, the tightening of sanctions, and the cancellation of an IMF program, led to a sudden stop in official foreign inflows. Sanctions also heightened risks in the private sector, leading to massive capital flight. Commercial bank lending to Pakistan halted abruptly and Pakistan was forced to enter a technical default in July 1998. By November, foreign exchange reserves were so low that the country could barely service its debts to international financial institutions, usually a senior creditor.³ Thus, US opposition to Pakistan's nuclear program, and its ability to impact official and private foreign financial flows, was an indirect cause of Pakistan's debt crisis.

Without US support, recovery from the financial crisis was prolonged. As seen in Figure 2, commercial borrowing remained negligible and Pakistan, usually a repeat borrower, was shut out of international bond markets between October 1998 and March 1999 (Ballard-Rosa, Mosley and Wellhausen 2021). Its credit rating, once high, remained low until 2002 (see figure 3). They were also unable to negotiate a new IMF program until 2000, which according to data from Ferry and Zeitz (2024b), took a prolonged number of visits to negotiate.⁴

Pakistan's political situation changed drastically following the terrorist attacks on September 11th, 2001. Pakistan became a key ally in the US' War on Terror, directly impacting its financial position. As a "a testament to America's commitment to build a strong, deep, and long-term relationship" with Pakistan, the US provided "multi-billion dollar, multi-faceted assistance."⁵ This included forgiveness of \$1 billion in Pakistani government debt and increased economic and military aid. Private investment insurance also became available to Pakistan through OPIC and the US and Pakistan began negotiating a Bilateral Investment Treaty in 2005.⁶ While there were some concerns about Pakistan's use of aid funds, US-Pakistan relations remained largely positive through 2010, including during Pakistan's 2008 financial crisis. As evidence that these events updated perceptions of creditworthiness in the international markets, Figures 3 and 4 shows that, despite its recent default, Pakistani bond spreads were low and its credit ratings high(er) in the mid 2000s.

In fact, anecdotal evidence suggests that Pakistan's relationship to the US was key to its weathering of financial difficulties. Brought on by the global downturn, inflation and commodity prices in Pakistan soured in 2007 and 2008. As 2008 was a Pakistani election year, the government attempted to gain political advantage and absorb increasing prices with financing from the its US dollar reserves and borrowing through the State Bank of Pakistan. However, as global capital dried

³https://1997-2001.state.gov/issues/economic/trade_reports/south_asia98/pakistan98.html

⁴Pakistan's 2000 program was concluded in four negotiating missions with IMF staff between May and September 2000. The average number of staff negotiating missions in this period is 2 (Ferry and Zeitz 2024).

⁵<https://2001-2009.state.gov/p/sca/rls/rm/26277.htm>

⁶<https://2001-2009.state.gov/e/eeb/ifd/2005/42099.htm>

up and foreign investors began withdrawing from the Pakistani market, Pakistan found itself in a severe balance of payments crisis. It first turned to the IMF, where geopolitics played an important role in securing rapid negotiations. As quoted in Aklin and Kern (2019, 16-17), an IMF staffer told US officials that Pakistan “is relying too heavily on their geo-strategic importance and still believes that, in the end, international assistance will come to help overcome the current budget shortfalls.” Pakistan’s 2008 IMF package was negotiated in a single month. Bilaterally, the US signed the Enhanced Partnership with Pakistan Act in 2009, authorizing up to \$1.5 billion a year in economic aid for Pakistan. Based on Figure 1, aid flows peaked in 2010 and the US Ambassador to Pakistan made clear that “making this commitment to Pakistan while the U.S. is still recovering from the effects of the global recession reflects the strength of our vision. . . we have made this commitment, because we see the success of Pakistan, its economy, its civil society and its democratic institutions as important for ourselves, for this region and for the world.”⁷

The combination of The Raymond Allen Davis incident, the death of Osama Bin Laden, and the Salala affair significantly soured the US-Pakistan partnership in 2011. Two long-term shifts – increasing competition between the US and China, Pakistan’s main ally, and the withdrawal of US troops from Afghanistan – also changed the international landscape in which US-Pakistan relations operate.⁸ As US aid fell in the 2010s, aid from China increased. Through the China-Pakistan Economic Corridor, Pakistan remains the largest recipient of the Belt and Road Initiative. This switch in geopolitical allegiance had important implications for Pakistan’s latest round of economic difficulties.

Due to persistent inflation and currency depreciation, Pakistan has been teetering on the edge of a balance of payments crisis for several years. Shortly after Imran Khan was elected Prime Minister in July 2018, the economic situation became more acute, which typically prompts an IMF program. However, the US was reticent of such a program due to concerns that an IMF program would use US money to subsidize bad Chinese loans. As Secretary of State Mike Pompeo stated, “We will be watching what the IMF does. There’s no rationale for IMF tax dollars, and associated with that American dollars that are part of the IMF funding, for those to go to bail out Chinese bondholders or China itself.”⁹ In response, Pakistani officials said that “Pakistan will search for other options if the road to the IMF is blocked.”¹⁰ Instead of US bailouts, Pakistan received bailouts from China, Saudi Arabia and the United Arab Emirates; yet, the additional liquidity was not enough to stave off an eventual Fund program in 2019, which took eight months to negotiate (Ferry and Zeitz 2024a)

Despite continued Chinese bailouts, Pakistan’s economic problems persisted. Pakistan teetered dangerously close to default in 2023, when The IMF placed a \$1.7 billion tranche of its loan on hold due to Khan’s failure to comply with IMF conditions. In a surprising move, Pakistan’s army chief, General Qamar Javed Bajwa made a direct appeal to the US to use its influence at the Fund to unlock the delayed installment.¹¹ Commentators mentioned that this was unexpected because Pakistan-US relations have been strained, mainly over the current ruling of Afghanistan. US help didn’t appear to be particularly forthcoming because the bailout took eight months of

⁷https://web.archive.org/web/20110917175132/http://www.app.com.pk/en_/index.php?option=com_content&task=view&id=96455&Itemid=2

⁸<https://crsreports.congress.gov/product/pdf/IF/IF11270>

⁹<https://www.reuters.com/article/world/u-s-pompeo-warns-against-imf-bailout-for-pakistan>

¹⁰<https://www.ft.com/content/ff3a6130-94ba-11e8-b67b-b8205561c3fe>

¹¹<https://apnews.com/article/pakistan-united-states-taliban-international-monetary-fund-6>

tough negotiations to secure. The release of IMF funds also did little to help the spread of Pakistani bonds, which peaked at over 1300 basis points in September 2023. While anecdotal, evidence suggests that Pakistan has had a harder time navigating the latest round of financial crises in an era without US support.

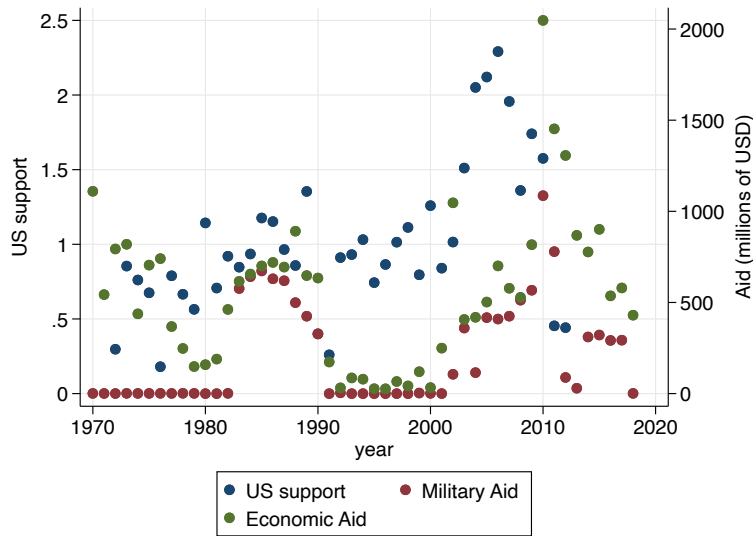


Figure 6: US Support and Foreign Aid to Pakistan

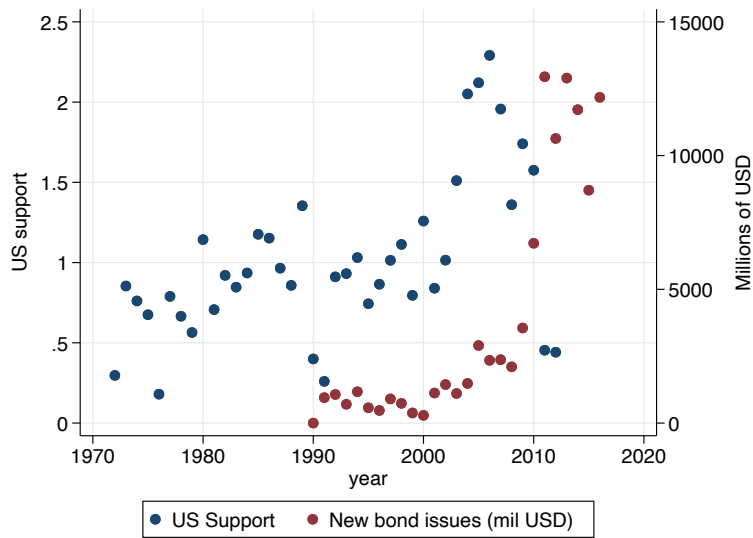


Figure 7: US Support and Bond Issuance in Pakistan

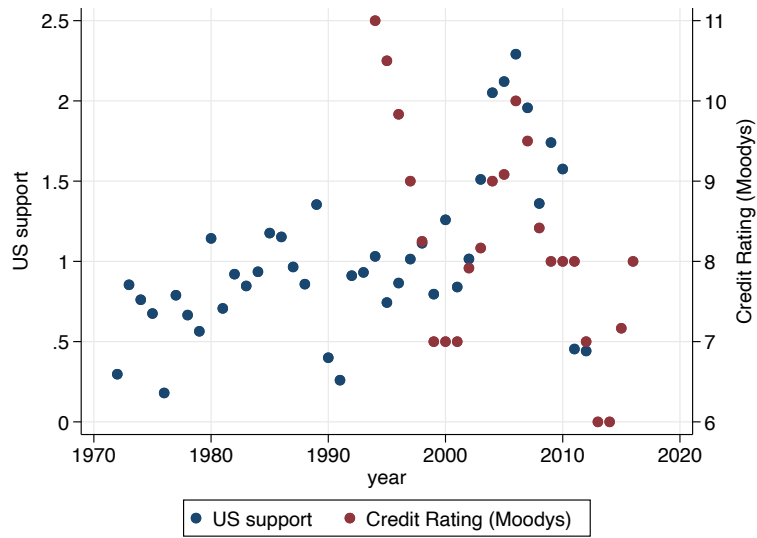


Figure 8: US Support and Credit Ratings in Pakistan

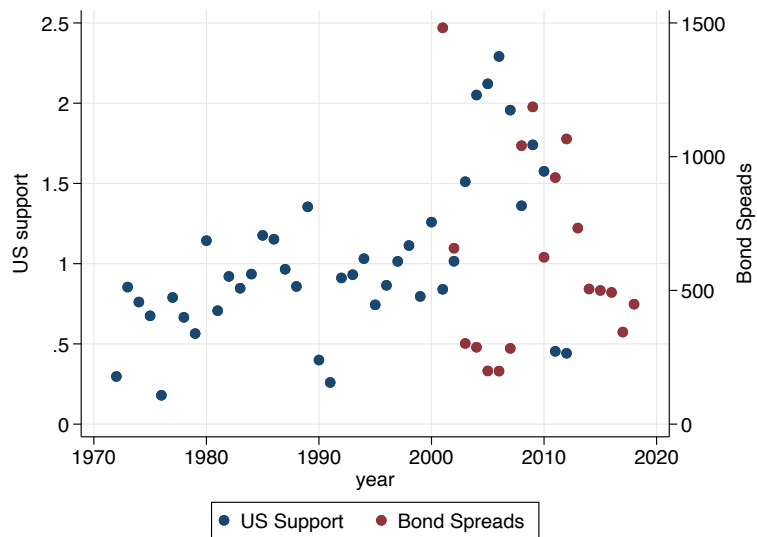


Figure 9: US Support and Sovereign Bond Spreads in Pakistan

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