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Friends for the benefits: The effects of political ties on sovereign borrowing conditions*

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July 17, 2019

Abstract

Do closer political ties with a global superpower improve sovereign borrowing conditions? We use data on voting at the United Nations General Assembly along with foreign aid flows to construct an index of political ties and find evidence that suggests closer political ties leads to both better sovereign credit ratings and lower yields on sovereign bonds. We use heads-of-state official visits and coalition forces troop contributions as exogenous instruments to further strengthen the findings.

Keywords: Political economy, Sovereign borrowing, Foreign aid, UN voting

JEL Codes: F50;F35;H63;G24

*The views and opinions expressed in this paper are those of the authors and do not necessarily reflect the views of the Bank of Finland. We thank Essi Eerola and Laurent Weill for helpful comments and suggestions.

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Recent events have highlighted the political reality that military and financial assistance in the form of foreign aid may be used as carrots and sticks by donor countries to exert influence on issues of global importance.¹ This has arguably been the case in many instances both in the past and recently. Although foreign aid by way of Official Development Assistance (ODA) is by definition geared towards the promotion of economic development and welfare, recent evidence suggests that aid is still overtly used to influence political outcomes. For instance [Faye and Niehaus \(2012\)](#) find evidence which suggests that the United States (US) is more likely to provide aid when ruling political parties in recipient countries are more aligned with US interests. [Kuziemko and Werker \(2006\)](#); [Dreher et al. \(2008\)](#) and [Dippel \(2015\)](#) find similar evidence on *vote-buying* by donor countries in the context of the United Nations General Assembly, United Nations Security Council, and at the International Whaling Commission respectively.

However, the economic consequences of voting in line with a global superpower and forging closer political ties are not necessarily restricted to foreign aid flows. Are there spillovers and effects beyond that directly associated with foreign aid (e.g. stigma, exclusion, and the implicit support of a global superpower)? In this paper we consider the effects of stronger political ties on sovereign borrowing conditions.² We focus on the United States, arguably the predominant global superpower of our times, and use voting similarity with the US at the UN General Assembly along with US foreign aid flows to measure the strength of political ties with the US and estimate its effect on two key features of sovereign borrowing conditions, sovereign credit ratings and sovereign bond yields.

¹For instance, over the period 2017-2018, the President of the United States has repeatedly threatened in public addresses and over social media that sovereign states who voted against the US at the United Nations General Assembly will stop receiving aid from the US (e.g. "*Let them vote against us, we'll save a lot.*" -@realDonaldTrump on Twitter, December 20, 2017).

²See also [Bekaert et al. \(2016\)](#) on political risk as an important driver of sovereign spreads, [Longstaff et al. \(2011\)](#) on the global and domestic determinants of sovereign credit risk and [Gelos et al. \(2011\)](#) on the determinants of sovereign borrowing market access.

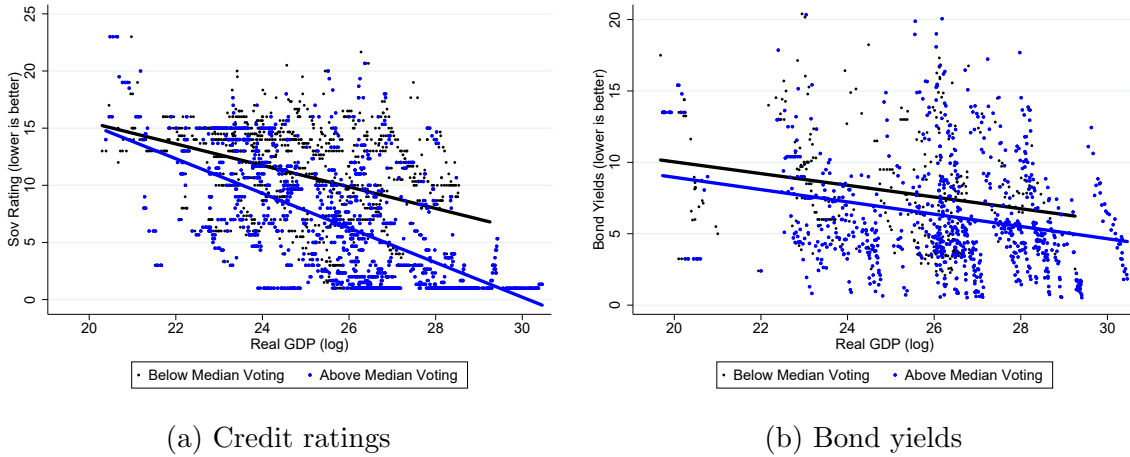
To address the issue of potential endogeneity of aid flows and voting at the UN and to mitigate biases from potentially omitted variables, we use exogenous instruments unlikely to be related to sovereign borrowing conditions except through closer political ties with the US. We use the number of troops (peak) contributed to the US-led Iraq War by other countries as well as the number of heads of state visits to the White House by each country in each year as instruments for political ties.

We find a statistically and economically significant effect of closer political ties with the US. First, an increase of US aid flows of one percent of GDP a year (effectively tripling the average) is associated with 0.2 to 2 notch upgrade in sovereign ratings and 1.8-5.3 percentage points lower yields. On the other hand a switch from completely voting against to always voting with the US at the UN General Assembly is associated with 0.8 to 8.2 notch upgrade in sovereign ratings and 1-6 percentage points lower bond yields. Using our political ties index, we find that a one standard deviation improvement in US political ties leads to 0.3 to 5.4 notch upgrade in sovereign ratings and 2.6 (and up to 11) percentage points lower sovereign bond yields.

As a motivating example, consider the sovereign credit ratings and bond yields (5-year maturity) that countries obtain relative to their income. In Figure 1, we plot sovereign credit ratings and bond yields across several country-year observations with Real GDP (in logs) on the horizontal axis. On the top left panel, we distinguish between those who have obtained less than the mean Net ODA from the US (black markers) and those that obtain above the mean Net ODA (blue markers) while on the top right panel we distinguish between those that vote less similarly with the US (black markers) and those that vote more similarly with the US (blue markers). We repeat the same comparison using sovereign bond yields in the bottom panels. In all cases, country-years where a state has received more aid from the US or voted more similarly with the US obtain a better credit rating (lower value in the vertical axes) or lower bond yield than their income would suggest.

Potential channels and related literature

Figure 1: UN voting and sovereign borrowing



*Each point represent a country-year pair. The left panels plots sovereign ratings on a numerical scale (lower is better, AAA=1 and Default is 23) against real GDP and splits the sample between country-years for which voting similarity in the UN General Assembly (using the *Signorino and Ritter 1999* classification) are above (blue markers) and below (black markers) the median respectively. In all cases, real GDP in logs are on the horizontal axes. On the right panel we plot average yields on 5-year sovereign bonds (lower is better) on the vertical axis against real GDP with a similar split. The solid lines represent linear fits across sub-samples.*

The political relationship between a sovereign state and the United States influences several dimensions of economic importance. Closer political ties, directly through foreign aid, presents an additional cushion to the fiscal space that governments can benefit from providing a direct channel through which political ties influence sovereign borrowing conditions. [Thacker \(1999\)](#) was one of the first to show that political similarity with the US, measured through voting similarity in the United Nations General Assembly (UNGA), influences fiscal conditions in recipient countries by looking at IMF lending. He finds that increased voting similarity with the US increases the likelihood of receiving IMF loans.³ On the other hand, [Barro and Lee \(2005\)](#) also find that IMF lending reacts to political-economic variables but that such loans may end up leading to lower economic growth. Further, political alignment may go beyond influencing the size of aid but also its effectiveness. [Dreher et al. \(2015\)](#) find that political similarities between donor and recipient countries tend to increase the effectiveness of aid.⁴ Their findings are patterned after [Clemens et al. \(2012\)](#) who find modest effects of aid on growth.

³See also [Dreher et al. \(2009\)](#) and [Kersting and Kilby \(2016\)](#) who find that membership in the UN security council is associated with more World Bank projects. Further, [Fleck and Kilby \(2006\)](#) find evidence of significant US influence in World Bank lending.

⁴[Burnside and Dollar \(2000\)](#) also point out that aid is effective in stimulating growth when the beneficiary has good macro-policy and little corruption

Another stream of the literature show that political instability raises the cost of sovereign debt (Citron and Nickelsburg, 1987; Brewer and Rivoli, 1990). Our results complement recent findings in the literature such as Bekaert et al. (2016) who find political risk as an important determinant of sovereign spreads. See as well Alesina and Passalacqua (2016) for a review of the literature on politics and government debt. Evidence to this effect are presented for developing economies in Brender and Drazen (2008) and specifically through foreign aid and when incumbents have sufficient stability in Licht (2010).

This channel is also particularly important since these borrowing conditions spill over to private markets. First, our findings on the effects of political ties and aid flows on sovereign credit ratings has implications for private sector credit conditions and private investment in the domestic economy. Almeida et al. (2017) and Chen et al. (2013) show that private investment co-moves with sovereign rating changes. Second, through its effects on the likelihood of sovereign default, disruptions in political ties and aid flows may lead to costly disruptions of financial intermediation.⁵ For instance, Boehmer and Megginson (1990) and Lyon and King (2016) show that sovereign risk is an important driver of cross-border bank lending and bond markets. Andrade and Chhaochharia (2018) find that sovereign defaults can lead to as much as a twelve percent loss of value to vulnerable firms due to their effects on financial intermediation.

Other recent contributions to the literature have focused on other aspects such as Qian and Yanagizawa-Drott (2017) who document that US media coverage of human rights violations co-vary with US State interests. Closer to our work is Garmaise and Natividad (2013) who find that political alignment (with lender countries) influence the cost of financing of domestic Micro-Finance Institutions and the consequent non-commercial (e.g development) lending from these institutions as well as John et al. (2016) who show that closer bilateral political ties (government to government) are associated with more merger

⁵Sovereign default is in itself a broad topic for study considering that sovereign states are large borrowers and may default even outside of illiquidity or insolvency issues. See for example Eaton and Gersovitz (1981) for an early treatment of this issue.

and acquisition activity.⁶

Our analysis on how bilateral political ties between the United States and other foreign governments mirrors the literature on the value of political connections for private firms. For instance, Fisman (2001); Faccio (2006); Goldman et al. (2009) and Acemoglu et al. (2016) show that political connections positively affects firm value. Further, Claessens et al. (2008); Boubakri et al. (2012); Houston et al. (2014) and Banerji et al. (2018) show that political connections lower the cost of equity capital and improves bank financing conditions. Finally, Faccio et al. (2006) show that politically connected firms are more likely to be bailed out.

Our work also builds on the literature which look at the determinants to sovereign ratings and sovereign debt costs.⁷ Aside from purely economic factors, this literature has also emphasized the importance of domestic institutions such as a strong legal environment (Butler and Fauver, 2006), a strong and independent central bank (Bodea and Hicks, 2017), and democracy (Beaulieu et al., 2012; Saiegh, 2005).⁸ Our hypothesis suggests that close political ties with the US may be another determinant to sovereign ratings. Our result on the effect of political ties on sovereign ratings is in line with the literature which suggests the role of qualitative factors in the determination of sovereign ratings. Fuchs and Gehring (2017) document a *home bias* towards sovereign ratings of more geopolitically and culturally aligned countries. De Moor et al. (2018) find that subjectivity in sovereign ratings, driven by a country's lobbying effort or closeness to the United States, is substantial.

Our work is also related to the literature on the effects and determinants of development aid. There is a large literature on the determinants of aid flows and its ensuing

⁶See also Coeurdacier et al. (2009) who show that the establishment of the European Monetary Union has facilitated merger and acquisition activity among Euro area manufacturing firms.

⁷See Reusens and Croux (2017) for a recent study documenting how the importance of several variables in predicting sovereign ratings have changed for European bonds following the European sovereign debt crisis. See also Cantor and Packer (1996) for an early study on the economic determinants of sovereign ratings as well as Gande and Parsley (2005) who show that negative sovereign rating changes may spill over to other countries.

⁸See also North and Weingast (1989).

effects on the recipient country. See for instance [Alesina and Dollar \(2000\)](#) and [Dreher et al. \(2008\)](#) on the determinants of aid among which is the political relationship with the donor.⁹ Of particular importance, to our work is the effect of political alignment with respect to donor countries - specifically the United States. [Boone \(1996\)](#) is an influential paper in the aid literature that reignited the aid effectiveness debate by arguing that foreign aid does not improve investment or human development but rather increases the size of government. In this paper, he uses political determinants of aid as an instrument. More recent contributions have not provided a clearer picture on the relationship between aid and growth. [Burnside and Dollar \(2000\)](#); [Easterly \(2003\)](#); [Rajan and Subramanian \(2008\)](#); [Arndt et al. \(2010\)](#); [Clemens et al. \(2012\)](#); [Jones and Tarp \(2016\)](#) and [Temple and Van de Sijpe \(2017\)](#) provides a representative, though non-exhaustive example of the history and state of this debate.

The literature referenced above indicates that closer political alignment, often measured using voting similarities at the UN General Assembly, leads to more aid and perhaps better economic outcomes. A related stream also finds that aid is used to *buy* UN General Assembly votes. [Dreher et al. \(2008\)](#) find that, and unlike other G7 countries, US aid in the form of general budget support and grants induce recipient countries to vote more closely with the US. [Carter and Stone \(2015\)](#) find similar results. US aid and influence also seems to influence the UN Security Council.¹⁰ [Kuziemko and Werker \(2006\)](#) find that US aid to a country increases as it becomes a member of the security council and that these are larger during key events when security council members' votes are most valuable. [Dippel \(2015\)](#) uses a dispute in the International Whaling Commission in a triple-difference identification strategy to show that voting with the pro-whaling block is rewarded by Japan and punished by the anti-whaling block with aid flows.

The rest of the paper is structured as follows. Section 1 discusses data sources. Section 2 explores the effect of voting and aid on sovereign borrowing conditions and Section 3

⁹It may be of interest that the US appears less likely to give aid for altruistic purposes than other donors, such as Scandinavian countries. See for instance, [Alesina and Weder \(2002\)](#) on corruption as a determinant of aid and who also tentatively find that increases in aid tend to increase corruption.

¹⁰Ten of the 15 seats in the UN security council are held by rotating members for two-year terms.

provides further evidence using an instrumental variables approach. Finally, Section 4 concludes with some remarks.

1 Data

We obtain US aid flows, official development assistance (ODA) covering both grants and total disbursements and commitments as a percentage of GDP, from the OECD aid database. Since this database covers only development aid to developing economies, we also obtain US economic and military aid data from the USAID Greenbook which covers *aid* flows to both developed and developing countries.¹¹

United Nations General Assembly (UNGA) voting data are taken from Voeten (2013) and Bailey et al. (2017). In particular, we use the Signorino and Ritter (1999) measure of voting similarity (relative to the United States) using *Yes-No-Abstain* categories ($S3 - Imp$).¹² We also make use of the two-category, *Yes-No*, version of the Signorino and Ritter (1999) index ($S2 - Imp$). These indices are bilateral similarity measures (*dyadic*) which reflects average voting patterns for a given UNGA session and is roughly equivalent to a calendar year. In addition, we focus only on votes that have been deemed important by the US State Department.

Macroeconomic and sovereign borrowing data are taken from the World Bank Development Indicators and the International Monetary Fund International Financial Statistics datasets. Sovereign credit ratings are long-term foreign currency ratings from the three major rating agencies (when available), *S&P*, *Moody's*, and *Fitch*. These are converted to a numerical scale with 1 equivalent to the *S&P* AAA rating and 24 equivalent to the low-

¹¹We are also interested in including aid flows to developed countries in the sample as these are more likely to represent symbolic and politically motivated aid flows than aid that go to developing countries.

¹²Our measure is an average score of voting similarity between other countries and the US on all resolutions during each UNGA session (roughly one calendar year). For each resolution, voting in the same manner with the US is coded as 1, voting in the opposite is coded as -1, and an abstain or absence is coded as 0. $S3 - Imp$ is the simple average of the score for resolutions in each UNGA session deemed important by the US State Department.

est category (default).¹³ These indices are also averaged across agencies to construct an average sovereign credit rating for each country-year observation and were collected from the respective agencies. We take measures of political (*democracy*) and civil rights from Freedom House and a national capability index from the Correlates of War database.¹⁴ Finally, we add as potential exogenous instruments for US political ties the number of visits by heads of state to the White House (per country-year) and peak troop contributions of other countries to the US-led Iraq War.¹⁵

We restrict the sample to those countries who have received US aid, have voted in the UN General Assembly, and for which we have sovereign borrowing data. These leaves us with a starting sample of 3,350 country-year observations from 1961-2016 for 137 countries. The sample coverage in terms of countries and years are reported in Table A.1. Table 1 provides summary statistics.

¹³See Table A.2 in the Appendix for the conversion table.

¹⁴The historical Freedom House dataset is available at <https://freedomhouse.org>. The Correlates of War database is available at <http://www.correlatesofwar.org/>. These were obtained in February 5, 2018.

¹⁵Iraq War troop contribution data taken from a 2007 US Congressional Report (RL32105). White House visits by heads of states taken from the Office of the Historian at <https://history.state.gov/departmenthistory/visits> on April 3, 2019.

Table 1: Summary statistics

	Mean	St. Dev.	Count	Unit	Source
USA Grant ODA to GDP	0.48	0.87	1813	% of GDP	OECD DAC & CRS
USA Net ODA to GDP	0.48	0.83	1844	% of GDP	OECD DAC & CRS
USA Grant Comm to GDP	0.55	1.07	1825	% of GDP	OECD DAC & CRS
USA Total Comm to GDP	0.60	1.15	1828	% of GDP	OECD DAC & CRS
USA-G Econ Comm	0.45	1.12	2776	% of GDP	OECD DAC & USAID
USA-G Mil Comm	0.07	0.31	2776	% of GDP	OECD DAC & USAID
USA-G Total Comm	0.52	1.26	2776	% of GDP	OECD DAC & USAID
S2-Imp with USA	0.06	0.53	3251	Index (-1 to 1)	Erik Voeten Dataverse*
S3-Imp with USA	0.05	0.40	3272	Index (-1 to 1)	Erik Voeten Dataverse*
Rating: SP	8.54	5.48	2340	Index (1-AAA to 23-Default)	S&P Ratings
Rating: Fitch	8.24	5.05	1684	Index (1-AAA to 23-Default)	Fitch Ratings
Rating: Moodys	7.67	5.25	2004	Index (1-AAA to 23-Default)	Moodys Ratings
Bond Yield	7.50	5.59	1282	% Yield on 5-year sov. bond	IMF IFS
Gov. debt to GDP	51.10	39.91	3447	Central Gov. Debt-to-GDP	IMF IFS
Real GDP (log)	24.51	2.36	3346	Log Constant 2010 USD	World Bank Dev. Ind.
Real GDP growth	0.03	0.04	3346	% year-on-year growth	World Bank Dev. Ind.
Population (log)	8.80	2.03	2832	Log thousands	World Bank Dev. Ind.
Trade openness	86.40	54.50	3134	Sum of Exports and Imports to GDP	World Bank Dev. Ind.
Civil rights	2.85	1.62	3183	Index (1 to 7)	Freedom House [†]
Democracy	3.86	2.20	3183	Index (1 to 7)	Freedom House [†]
Nat. capability index	0.01	0.02	2832	Index	Correlates of War [‡]
Peak troop deployment in Iraq invasion	3,210.64	25,599.35	3203	Peak troop deployment in Iraq	U.S. Cong. Report**
White House visits	0.42	0.71	3463	Number of Heads of state visits	US State Department***

*Voeten, E. (2013). *Data and analyses of voting in the un general assembly*. In Reinalda, B., editor, Routledge Handbook of International Organization. Routledge, 1 edition; Bailey, M., Strezhnev, A., and Voeten, E. (2017). *Estimating dynamic state preferences from united nations voting data*. Journal of Conflict Resolution, 61(2):430–456

**Blanchard, C. and Dale, C. (2007). *Iraq: Foreign contributions to stabilization and reconstruction*. CRS Report to Congress RL32105, Congressional Research Service

***Office of the Historian. <https://history.state.gov/departments/history/visits> [accessed April 3, 2019]

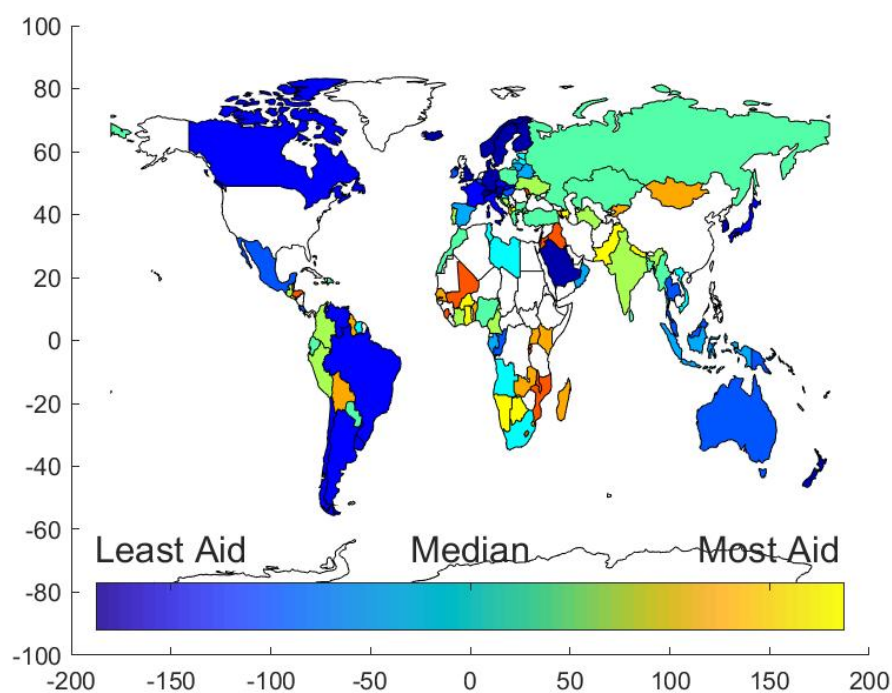
[†]<https://freedomhouse.org> [accessed February 5, 2018]

[‡]Singer, J., Bremer, S., and Stuckey, J. (1972). *Peace, War, and Numbers, chapter Capability Distribution, Uncertainty, and Major Power War, 1820-1965, pages 19–48*. Beverly Hills: Sage

On average, developing country recipients receive about 0.6% of their GDP in aid commitments from the US (roughly 120 million in 2015 USD) per year in our sample. Using the USAID Greenbook aid flows variable, which includes aid to developed countries, the average falls to about 0.45% of GDP in economic aid. Figure 2 plots the average amount of total aid commitments the US has made to each country over our sample period (USAID Greenbook dataset).

In terms of voting similarity ($S3 - Imp$), on average, countries do not appear to disproportionately vote with or against the US (a near-zero value in the Signorino and

Figure 2: Average US aid commitments

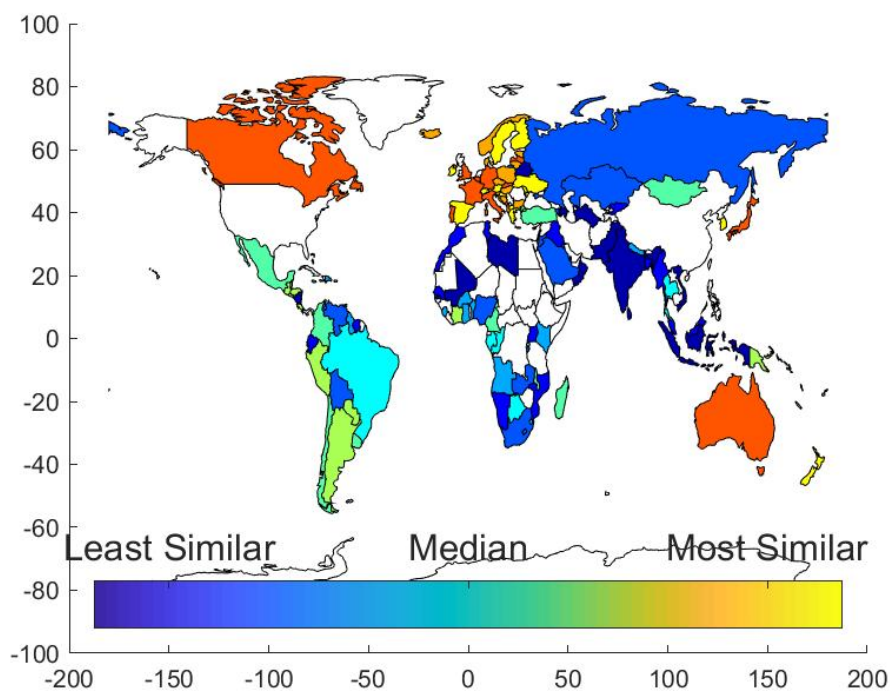


The colors indicate the Total Aid commitment in deciles, from least (blue) to most (yellow), a country receives from the US as averaged over the period 1961-2016.

Ritter (1999) indices). Figure 3 plots the average voting similarity of the various countries with respect to the US.

Finally, we construct a measure of political ties with the US incorporating information from both US aid flows and UN voting similarity by using factor analysis. Given that political ties with the US is an (unobserved) factor that is a common driver to the US aid flows and voting similarity variables, extracting a common factor from the set of observable aid flows and UN voting variables can provide us with a measure of US political ties which has a lower degree of measurement error. Table 2 provides the results of a factor analysis on the seven aid flow variables and two UN voting similarity variables in our dataset for up to five latent factors.

Figure 3: Voting similarity with the US



The colors indicate the decile, from least similar (blue) to most similar (yellow), a country's UNGA voting is with respect to the US using the Signorino and Ritter (1999) index as averaged over the period 1961-2016.

Table 2: Factor analysis: aid and voting

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Share variation	0.601	0.223	0.097	0.061	0.031
Loadings					
USA Grant ODA to GDP	0.830	0.026	-0.095	0.413	-0.098
USA Net ODA to GDP	0.834	0.031	-0.023	0.264	-0.279
USA Grant Comm to GDP	0.923	-0.029	-0.225	0.046	0.270
USA Total Comm to GDP	0.929	-0.009	-0.231	0.006	0.234
USA-G Econ Comm	0.909	-0.014	-0.046	-0.390	-0.140
USA-G Mil Comm	0.535	-0.067	0.826	0.099	0.126
USA-G Total Comm	0.929	-0.027	0.128	-0.332	-0.100
S2-Imp with USA	0.025	0.969	0.034	-0.013	0.011
S3-Imp with USA	0.037	0.969	0.020	-0.013	0.014

All variables have positive loading on the first factor which comprises about 60 percent of the variance of the set of observed variables.¹⁶ We thus construct our US Political Ties

¹⁶Aid commitments load negatively on the second factor while voting similarity have positive loadings suggesting that the second factor is related to developed country characteristics given that developed

Index using the first factor.¹⁷

2 Do closer ties with the US reduce the cost of sovereign debt?

We now focus on the consequences of voting similarity and aid on the cost of borrowing by sovereign states. We run a regression with sovereign credit ratings (converted to a numerical scale from 1 to 23 with 1 equivalent to AAA) and the yields on a country's 5-year sovereign bond issues as dependent variables and aid, voting similarity, or our political ties index as explanatory variables. In particular, we run the following regression,

$$Debt_{i,t} = \alpha_r + \alpha_t + \beta Pol_{i,t} + \sum_{j=1}^k \gamma^j Y_{i,t-1}^j + \epsilon_{i,t} \quad (1)$$

where $Debt_{i,t}$ is one of the sovereign borrowing conditions variable, $Pol_{i,t}$ is a measure of US political ties, and $\{Y_{i,t}^j\}_{j=1}^k$ are a set of control variables. We use as baseline control variables a country's real GDP, Population, Debt to GDP, Region (r) and Time (t) fixed effects. In a second exercise, we implement instrument variable approach using participation in the US-led Iraq War and official heads-of-state visits to the White as exogenous instruments for US political ties.

We first report results on the first aspect of sovereign borrowing conditions under consideration, a country's long-term sovereign credit rating. The results using S&P ratings are reported in Table 3. Results from regressions on Fitch and Moodys ratings are available in the Appendix. Columns 1 to 7 use US aid flows as a measure of political ties. We find that an increase of US aid by 1% of GDP leads to 0.5 to 1 notch upgrade in credit ratings. Estimates using UN voting similarity in columns 8 and 9 suggest that an increase of voting similarity with the US at the UN from completely against (-1) to completely

countries tend to vote more similarly with the US.

¹⁷The index is only available for country-years where we have observations for all the variables from which the factor was constructed.

with (+1) leads to a 2 notch upgrade. Finally, the last column reports results when we use our US Political Ties Index. A 1 standard deviation strengthening of political ties with the US leads to a 0.3 to 1 notch upgrade.

Table 3: Political ties on sovereign credit ratings

Dep. var. S&P ratings	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
USA Grant ODA to GDP	-1.022***									
USA Net ODA to GDP		-0.935***								
USA Grant Comm to GDP			-0.567***							
USA Total Comm to GDP				-0.570***						
USA-G Econ Comm					-0.854***					
USA-G Mil Comm						-0.703***				
USA-G Total Comm							-0.580***			
S2-Imp with USA								-0.785***		
S3-Imp with USA									-1.141***	
US Political Ties Index										-0.805***
L.Real GDP (log)	-1.834***	-1.786***	-1.653***	-1.657***	-3.345***	-3.099***	-3.283***	-3.088***	-3.078***	-1.801***
L.Real GDP growth	-9.253***	-9.551***	-11.003***	-11.000***	-9.532***	-9.953***	-9.652***	-5.986*	-5.927*	-10.027***
L.Population (log)	1.576***	1.539***	1.428***	1.431***	3.137***	2.901***	3.078***	2.785***	2.775***	1.537***
L.Gov. debt to GDP	0.047***	0.046***	0.047***	0.047***	0.036***	0.035***	0.037***	0.029***	0.029***	0.047***
Fixed Effect	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time
R-squared	0.513	0.535	0.474	0.474	0.771	0.764	0.770	0.822	0.823	0.494
Observations	795	804	802	802	1483	1483	1483	1813	1813	784

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$; Robust standard errors in parentheses.

Next, we consider the effects of voting and aid on 5-year sovereign bond yields. Results are reported in Table 4. An increase of US aid by 1% of GDP leads to 1-3 percentage points lower sovereign bond yields. An increase of voting similarity with the US at the UN from completely against to completely with leads to 2-3% lower yields. A one standard deviation strengthening of political ties with the US leads to 2.6% lower yields.

Table 4: Political ties on sovereign bond yields

Dep. var.: Bond yields	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
USA Grant ODA to GDP	-2.251***									
USA Net ODA to GDP		-3.044***								
USA Grant Comm to GDP			-1.886***							
USA Total Comm to GDP				-1.805***						
USA-G Econ Comm					-1.114***					
USA-G Mil Comm						-3.524*				
USA-G Total Comm							-1.055***			
S2-Imp with USA								-1.065**		
S3-Imp with USA									-1.454**	
US Political Ties Index										-2.621***
L.Real GDP (log)	-3.336***	-3.414***	-2.460**	-2.403**	-2.449***	-2.123***	-2.461***	-1.755***	-1.713***	-3.335***
L.Real GDP growth	5.857	6.483	8.088	7.614	10.932*	10.030*	11.042*	10.327*	10.375*	6.739
L.Population (log)	3.883***	3.895***	3.204***	3.162***	3.019***	2.709***	3.030***	2.024***	1.994***	3.772***
L.Gov. debt to GDP	0.025**	0.029**	0.022*	0.028**	0.018***	0.012**	0.018***	0.008	0.008	0.031**
Fixed Effect	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time
R-squared	0.616	0.628	0.590	0.592	0.600	0.594	0.600	0.603	0.611	0.606
Observations	286	286	289	289	782	782	782	1003	1016	245

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$; Robust standard errors in parentheses.

We also verify whether the results are robust to the inclusions of additional control variables and accounting for potential residual correlation within country groups. Results are reported in Table 5.

Table 5: Political ties and sovereign borrowing

	Rating: S&P		Rating: Fitch		Rating: Moodys		Bond Yield	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
US Political Ties Index	-0.805***	-0.723***	-0.365***	-0.291**	-0.964***	-1.379***	-2.621***	-2.759***
L.Real GDP (log)	-1.801***	-1.502***	-1.738***	-1.325***	-2.044***	-1.652***	-3.335***	-3.251***
L.Real GDP growth	-10.027***	-8.353***	-4.742*	-2.886	-6.381**	-5.189**	6.739	9.115
L.Population (log)	1.537***	1.005***	1.589***	0.709***	2.030***	1.347***	3.772***	3.425***
L.Gov. debt to GDP	0.047***	0.049***	0.039***	0.039***	0.037***	0.037***	0.031**	0.034**
L.Trade openness		-0.018***		-0.027***		-0.029***		-0.014
L.Civil rights		0.514***		0.330**		0.739***		0.170
L.Democracy		0.101*		0.149*		0.048		-0.179
L.Nat. capability index		-11.012		11.959		-30.529***		-11.546
Fixed Effect	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time
Standard errors	Clust:Cty	Clust:Cty	Clust:Cty	Clust:Cty	Clust:Cty	Clust:Cty	Clust:Cty	Clust:Cty
R-squared	0.494	0.540	0.466	0.538	0.416	0.512	0.606	0.625
Observations	784	749	559	533	587	568	245	236

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The column headers report dependent variables.

Our results remain after inclusion of additional controls and accounting for potential correlation within countries. To summarize, we find that closer political ties to the US, as measured with voting similarity at the UN and US aid flows improve sovereign credit ratings and lowers yields on sovereign bonds.

3 Evidence using instrumental variables

We provide further support for our results by using exogenous instruments. White house visits by heads of state as well as number of troops sent to US-led Iraq invasion are plausibly exogenous to factors driving credit ratings and bonds yields other than through political ties with the US. Consequently, we use these variables as instruments for political ties measured with voting similarity at the UN.

Table 6 reports the regression results. Columns one to three has the average sovereign ratings from all three ratings agencies as dependent variable and using either and both

instruments respectively.¹⁸ Columns four to six report regression results with sovereign bond yields as the dependent variable.

Table 6: IV Regressions

Dep. var.:	Ave. Sov. Rating			Bond Yield		
	(1)	(2)	(3)	(4)	(5)	(6)
S3-Imp with USA	-6.289***	-5.811***	-5.963***	15.857	-6.052***	-5.679***
L.Real GDP (log)	-2.820***	-2.851***	-2.846***	-1.789***	-1.693***	-1.694***
L.Real GDP growth	-6.571**	-6.474**	-6.496**	11.023	10.203*	10.217*
L.Population (log)	2.557***	2.598***	2.594***	2.101***	1.966***	1.968***
L.Gov. debt to GDP	0.029***	0.028***	0.028***	-0.001	0.010**	0.010**
Fixed Effect	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time
Instrument	WH visit	Iraq Troop	All	WH visit	Iraq Troop	All
Cragg-Donald F	42.77	142.4	95.39	3.129	175.6	89.20
Kleibergen-Paap	18.22	104.6	130.6	3.088	75.56	75.57
Hansen J	N.A.	N.A.	0.118	N.A.	N.A.	3.722
R-squared	0.763	0.775	0.772	0.0851	0.437	0.441
Observations	1940	1937	1937	1016	1016	1016

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$; Robust standard errors in parentheses.

Coefficient estimates from columns one to three suggest that an increase of voting similarity with the US at the UN from completely against to completely with leads to about a 6 notch upgrade in sovereign ratings. On the other hand, results from columns four to six suggest that an increase of voting similarity with the US at the UN from completely against to completely with leads to 6 percentage points lower yields.

¹⁸We also report the Cragg-Donald F statistic and Kleibergen-Paap rk test statistic as tests of weak instruments. When the specification has more than one instrument, we also report Hansen's J statistic as a test of the models' over-identifying restrictions.

4 Concluding Remarks

Do closer political ties with the US improve sovereign borrowing conditions? Briefly, our results suggest yes they do. We use United Nations General Assembly voting similarity with the US and US aid flows to approximate the degree of political connection between sovereign states and the US to answer this question. We find that these voting similarity and aid flows are associated with significant improvements in sovereign borrowing conditions in terms of better sovereign credit ratings and lower sovereign bond yields. Our results provide a mechanism which can explain how votes in the United Nations General Assembly may be bought through the promise of better sovereign borrowing conditions. These results also provide a novel channel through which global political ties can affect economies. Nevertheless, we do not study the medium to long-term consequences of these effects. The overall macroeconomic effects may be larger given spillovers of sovereign borrowing conditions to private investment and credit markets (Almeida et al., 2017; Boehmer and Megginson, 1990; Chen et al., 2013; Lyon and King, 2016; John et al., 2016; Ambrocio et al., 2019). Our focus has also been solely on the US as a donor country. Extensions along these lines are areas for future research.

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Appendix A Additional Tables

Table A.1: Data coverage

	First Obs	Last Obs	N		First Obs	Last Obs	N		First Obs	Last Obs	N
Albania	1996	2016	21	Angola	2010	2016	7	Antigua and Barbuda	2012	2016	5
Argentina	1986	2016	31	Armenia	2002	2016	14	Australia	1961	2016	39
Austria	1972	2016	45	Azerbaijan	1999	2016	18	Bahrain	1987	2016	29
Bangladesh	2007	2016	8	Barbados	1991	2016	26	Belarus	2007	2016	10
Belgium	1961	2016	40	Belize	1979	2016	38	Benin	2003	2016	14
Bolivia	1994	2016	23	Bosnia and Herzegovina	2008	2016	9	Botswana	2001	2016	16
Brazil	1986	2016	31	Bulgaria	1996	2016	21	Burkina Faso	2004	2016	13
Burundi	1989	2006	18	Cabo Verde	1999	2016	18	Cameroon	1985	2016	22
Canada	1990	2016	27	Chile	1992	2016	25	Colombia	1993	2016	24
Costa Rica	1997	2016	20	Croatia	1997	2016	20	Cyprus	2000	2016	17
Czech Republic	1993	2016	24	Cote d'Ivoire	2014	2016	3	Denmark	1983	2016	34
Dominica	1980	2016	37	Dominican Republic	2000	2016	17	Ecuador	1997	2016	20
El Salvador	1996	2016	21	Estonia	2000	2016	17	FYR Macedonia	2004	2016	13
Fiji	1991	2016	25	Finland	1977	2016	40	France	1961	2016	38
Gabon	1985	2016	18	Germany	1990	2016	27	Ghana	1978	2016	39
Greece	1988	2016	29	Grenada	2002	2016	15	Guatemala	1997	2016	20
Guyana	1972	2016	45	Honduras	1983	2016	30	Hungary	1992	2016	25
Iceland	1989	2016	28	India	1961	2016	54	Indonesia	1992	2016	25
Iraq	2004	2016	6	Ireland	1983	2016	34	Israel	1988	2016	29
Italy	1978	2016	39	Jamaica	1967	2016	50	Japan	1972	2016	35
Jordan	1995	2016	22	Kazakhstan	2000	2016	17	Kenya	1972	2016	45
Korea	1991	2016	26	Kuwait	1994	2016	23	Kyrgyz Republic	2007	2016	10
Latvia	1996	2016	21	Lebanon	1990	2016	27	Lesotho	1994	2016	23
Libya	2000	2012	9	Lithuania	1996	2016	21	Luxembourg	1983	2016	34
Madagascar	2001	2016	15	Malawi	1981	2016	36	Malaysia	1976	2016	41
Maldives	2007	2016	10	Mali	2004	2016	13	Malta	1988	2016	29
Mexico	1988	2016	29	Moldova	1996	2016	21	Mongolia	1999	2016	18
Montenegro	2006	2016	11	Morocco	1998	2016	19	Mozambique	2003	2016	14
Myanmar	2010	2016	7	Namibia	1992	2016	25	Nepal	1981	2016	33
New Zealand	1983	2016	34	Nicaragua	2016	2016	1	Nigeria	1992	2016	25
Norway	1983	2016	34	Oman	1996	2016	21	Pakistan	1992	2016	25
Papua New Guinea	1995	2016	22	Paraguay	1995	2016	22	Peru	1999	2016	18
Poland	1995	2016	22	Portugal	1961	2016	53	Qatar	2001	2016	16
Republic of Congo	2013	2016	4	Russia	1995	2016	22	Rwanda	2002	2016	15
Samoa	1984	2006	20	San Marino	2004	2016	13	Saudi Arabia	1996	2016	21
Senegal	2000	2016	17	Seychelles	1989	2016	28	Sierra Leone	1970	2016	47
Singapore	1974	2016	41	Slovak Republic	2006	2016	11	Slovenia	1996	2016	21
Solomon Islands	2005	2016	12	South Africa	1983	2016	34	Spain	1980	2016	37
Sri Lanka	2002	2016	15	St. Kitts and Nevis	1984	2012	29	St. Lucia	2008	2016	9
St. Vincent and the Grenadines	1982	2016	35	Suriname	1999	2016	18	Swaziland	1982	2016	34
Sweden	1983	2016	34	Switzerland	2002	2016	15	Thailand	1989	2016	28
The Bahamas	1983	2016	34	The Gambia	1986	2012	27	Trinidad and Tobago	1966	2016	47
Tunisia	1995	2016	22	Turkey	1987	2016	30	Turkmenistan	1997	2009	13
Uganda	1983	2016	31	Ukraine	1998	2016	19	United Kingdom	1983	2016	34
United States	1983	2016	34	Uruguay	1993	2016	24	Venezuela	1976	2015	40
Vietnam	1993	2015	20	Zambia	1978	2016	37				
Total	1961	2016	3350								

Table A.2: Rating scale conversion

Numerical Scale	Moody's Long Term	S&P Long Term	Fitch Long Term
1	Aaa	AAA	AAA
2	Aa1	AA+	AA+
3	Aa2	AA	AA
4	Aa3	AA-	AA-
5	A1	A+	A+
6	A2	A	A
7	A3	A-	A-
8	Baa1	BBB+	BBB+
9	Baa2	BBB	BBB
10	Baa3	BBB-	BBB-
11	Ba1	BB+	BB+
12	Ba2	BB	BB
13	Ba3	BB-	BB-
14	B1	B+	B+
15	B2	B	B
16	B3	B-	B-
17	Caa1	CCC+	CCC+
18	Caa2	CCC	CCC
19	Caa3	CCC-	CCC-
20	Ca	CC	CC
21	Ca	C	C
22	C	RD	DDD
23		SD	DD
24		D	D

As per convention, a numeric rating of 10 or lower is considered invest-grade while a numeric rating of 11 or higher is considered speculative grade. A numeric rating of 22 or higher is in default.

Table A.3: Voting and aid correlations

	Grant ODA	Net ODA	Grant Comm	Total Comm	G-Econ Comm	G-Mil Comm	G- Total Comm	S2-Imp	S3-Imp
Grant ODA to GDP	1.000								
Net ODA to GDP	0.856***	1.000							
Grant Comm to GDP	0.796***	0.699***	1.000						
Total Comm to GDP	0.767***	0.724***	0.967***	1.000					
G-Econ Comm	0.600***	0.697***	0.787***	0.816***	1.000				
G-Mil Comm	0.389***	0.402***	0.346***	0.327***	0.331***	1.000			
G-Total Comm	0.621***	0.712***	0.781***	0.804***	0.972***	0.544***	1.000		
S2-Imp	0.028	0.037	-0.023	-0.002	-0.102***	0.073***	-0.073***	1.000	
S3-Imp	0.040	0.046	-0.007	0.011	-0.094***	0.086***	-0.062**	0.972***	1.000

Table A.4: Political ties on sovereign credit ratings

Dep. var.: Fitch ratings	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
USA Grant ODA to GDP	-0.408***									
USA Net ODA to GDP		-0.389***								
USA Grant Comm to GDP			-0.181***							
USA Total Comm to GDP				-0.181***						
USA-G Econ Comm					-0.409**					
USA-G Mil Comm						-0.581***				
USA-G Total Comm							-0.399***			
S2-Imp with USA								-0.913***		
S3-Imp with USA									-1.488***	
US Political Ties Index										-0.365***
L.Real GDP (log)	-1.751***	-1.737***	-1.655***	-1.656***	-3.327***	-3.186***	-3.315***	-3.192***	-3.183***	-1.738***
L.Real GDP growth	-4.451	-4.423	-4.912*	-4.913*	-10.102***	-10.068***	-10.112***	-11.605***	-11.763***	-4.742*
L.Population (log)	1.610***	1.604***	1.532***	1.532***	3.104***	2.981***	3.092***	2.834***	2.825***	1.589***
L.Gov. debt to GDP	0.039***	0.038***	0.038***	0.038***	0.028***	0.028***	0.029***	0.022***	0.022***	0.039***
Fixed Effect	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time
R-squared	0.464	0.458	0.453	0.453	0.777	0.773	0.777	0.822	0.824	0.466
Observations	564	569	568	568	1069	1069	1069	1292	1292	559

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$; Robust standard errors in parentheses.

Table A.5: Political ties on sovereign credit ratings

Dep. var.: Moodys ratings	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
USA Grant ODA to GDP	-0.899***									
USA Net ODA to GDP		-0.625**								
USA Grant Comm to GDP			-0.592**							
USA Total Comm to GDP				-0.598**						
USA-G Econ Comm					-1.290**					
USA-G Mil Comm						-0.802***				
USA-G Total Comm							-0.920***			
S2-Imp with USA								-1.472***		
S3-Imp with USA									-2.113***	
US Political Ties Index										-0.964***
L.Real GDP (log)	-2.016***	-1.936***	-1.917***	-1.920***	-3.683***	-3.436***	-3.603***	-3.292***	-3.283***	-2.044***
L.Real GDP growth	-6.139**	-6.274**	-7.402***	-7.404***	-9.159***	-9.411***	-9.311***	-10.565***	-10.625***	-6.381**
L.Population (log)	2.003***	1.955***	1.926***	1.928***	3.544***	3.334***	3.473***	3.043***	3.035***	2.030***
L.Gov. debt to GDP	0.037***	0.036***	0.036***	0.036***	0.029***	0.027***	0.029***	0.022***	0.022***	0.037***
Fixed Effect	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time	Reg,Time
R-squared	0.441	0.487	0.405	0.405	0.771	0.767	0.771	0.829	0.831	0.416
Observations	596	607	609	609	1238	1238	1238	1582	1582	587

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$; Robust standard errors in parentheses.

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