The Geoeconomics of International Political Relations and Sovereign Defaults *

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August 2024

Abstract

We show that a country's international political stance predicts its sovereign debt default risk by shaping long-term fluctuations in capital inflows. After a default, robust international political relations facilitate smoother recovery for a nation with less pronounced declines in output and credit, and smaller increases in sovereign bond yields. We introduce a bilateral international political relations (*IPR*) index for 152 countries from the 1880s onwards, summarizing military cooperation and diplomatic integration among nations. The *IPR* index can serve as an early warning indicator, offering accurate signals quantitatively similar to better-known crisis predictors, including the debt-to-GDP ratio, inflation, and domestic political stability.

Keywords: Geopolitical risk, crisis predictability, capital flows, international politics, gravity model
JEL classification: F34, F50, F60, H63, N20

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1 Introduction

Geopolitical tensions are highly elevated and pose important risks to global economic activity —Federal Reserve Chair Jerome Powell (October 2023)

More than half of low-income countries remain in or at high risk of debt distress; about a fifth of emerging economies face "default-like" spreads —IMF Managing Director Kristalina Georgieva (October 2023)

The global economy is undergoing a fundamental transformation. Brexit, growing geopolitical tensions in the Middle East and between the United States and China, and Russia's invasion of Ukraine pose challenges to international relations, affecting policy, trade, and financial decisions. In recent years, the global economic and financial landscape has been increasingly influenced by political and strategic decisions rather than solely economic factors. After decades of economic globalization, the world economy has begun to fragment. Despite these major developments, empirical evidence from economic history and research on geoeconomics—an interplay between geopolitical considerations, geography, and economics—remains scarce.[1] We take a step forward in filling this gap.

In particular, we define geoeconomics as the ability of a nation to use its existing international political and geographic relations to achieve economic goals and study whether a country's international political stance alters its external sovereign debt default risk. To this end, we first introduce an international political relations (*IPR*) index for 152 countries. Starting from the 1880s, the index summarizes a country's military conflicts and treaties, as well as its political integration with its peers, by aggregating a variety of sources that are widely used in the political science literature (see, e.g., Esteban et al., 2015; Ward and Gleditsch, 1998; Russet, 1994). We then show that a country's international political stance explains its sovereign debt default probability by altering capital flows and that it helps a nation mitigate the default costs, including credit and output loss, and elevated sovereign yields.

[1] Some recent attempts include Alfaro and Chor (2023), Korovkin and Makarin (2023), Crosignani et al. (2024), Alfaro and Chor (2023), and Konrad (2023) on the effects of geopolitics on trade, and Correa et al. (2023) and Niepmann and Shen (2024) on the geoeconomics of bank lending.

Why would international political relations matter in explaining capital flows and sovereign default risk? International investors are shown to adjust their investment portfolios away from regions perceived as politically distant (April 2023, IMF GFSR). Furthermore, sound political links with the rest of the world could reduce the perceived risk of a country—for example, by signaling economic cooperation or a greater commitment to responsible economic policies. The reduced risk, in turn, attracts capital inflows, as global investors are guided by perceptions of risk when allocating funds in international capital markets (Danielsson et al., 2023). Hence, the country which receives larger sustained capital inflows is better positioned to weather external shocks thanks to smooth consumption, increased investment, and accumulated foreign reserves (Mendoza, 1997; Hilscher and Nosbusch, 2010; Gennaioli et al., 2014; Longstaff et al., 2011; Gilchrist et al., 2022).

Anecdotal evidence suggests that a country's international political relations with other nations matter for its sovereign debt default risk. In our sample, a simple probability model predicts a 4% default chance for both Germany and France when considering traditional macroeconomic factors including debt levels and inflation. However, the historical crises database of Reinhart and Rogoff (2009a) shows that France has never defaulted on its external debt, while Germany has defaulted 16 times in 100 years. We argue that this discrepancy could be explained by France's stronger international political relations, evident in its significantly higher average *IPR* score than that of Germany. Furthermore, a preliminary statistical examination of mean default differences shows that countries with high *IPR* scores exhibit an average default rate of 14%. In contrast, this rate increases to 19% for those with low scores. This difference is statistically significant at the 1% level and holds for both developed and emerging economies.

However, studying the relationship between international political relations and debt default risk is not straightforward. The potential endogeneity of a country's international political relations is an important concern. We employ two approaches to alleviate such identification concerns: First, we adopt a staggered difference-in-differences (diff-in-diff) strategy to analyze how sovereign default responds to changes in *IPR*. We apply an event study with multiple treatments while adopting a "binning" approach as in Schmidheiny and Siegloch (2023).

Second, we employ the gravity model estimates (gravity-*IPR*) of Frankel and Romer (1999) in an instrumental variable (IV) regression setting. Here, our identification assumption is that countries' predetermined geographical characteristics—such as proximity, shared language, or colonial history—play a crucial role not only in influencing bilateral trade (as extensively documented in the trade literature) but also in affecting the political relations among nations. Furthermore, they are unlikely to alter the likelihood of sovereign debt crises other than through their effect on *IPR* (or trade relations, which are controlled in the main specifications).

A gravity model requires *bilateral* data and we therefore construct a bilateral *IPR* by averaging (1) bilateral military conflicts, (2) bilateral military cooperation treaties, (3) bilateral diplomatic representations, and (4) joint membership of intergovernmental organizations (IGOs).[2] Accordingly, a country receives a high score in a given year if it experiences minimal military conflicts, engages in numerous military cooperation treaties, and is politically well integrated with its peers. We regress the bilateral *IPR* against *predetermined* geographic characteristics and calculate the predicted *IPR*s. We then calculate a country-level gravity-*IPR* (as an instrument for *IPR*) by aggregating the predicted values using the countries' gross domestic products (GDPs) as the weights. Both *IPR* and gravity-*IPR* range from 1 to 100, with medians of 58 and 78, respectively. *IPR* and gravity-*IPR* are well correlated with a correlation coefficient of 0.55.

As a prelude to our analysis, we first show that *IPR* varies intuitively over time and across countries, and produces meaningful rankings. For example, North American countries have higher *IPR* scores than Asian countries, on aggregate. Second, *IPR* captures the changes in world politics following major events over time, including various wars and the foundation of alliances, such as the North Atlantic Treaty Organization (NATO) and the Warsaw Pact. Third, *IPR* has been high in recent decades, consistent with there having been fewer political

[2] There is no available *historical bilateral* political relations index. However, there are political stability/risk indexes proposed in the literature, including the geopolitical risk index (*GPR*). *IPR* differs in terms of both data coverage and definition. *GPR* is based on the share of articles in leading U.S. newspapers mentioning adverse geopolitical events, including wars, terrorism, and any tensions among nations that affect peaceful relations in the world. *IPR* quantifies a country's international political relations with others by considering military alliances and wars, and the degree of political integration between the countries. *GPR* and the GDP-weighted average of *IPR* are negatively correlated by 31%.

conflicts and enhanced diplomatic representation between nations. Finally, *IPR* is correlated with relevant series of political stability/risk and integration, including domestic political stability proxies, and economic and financial integration.

We then document four sets of results. First, *IPR* predicts sovereign debt default risk above and beyond the standard macroeconomic variables. Countries with solid military cooperation, fewer conflicts, and stronger political connections with their peers are less likely to face a sovereign debt crisis. We reach the same conclusion when we attempt to address the endogeneity concerns via IV-probit regressions and diff-in-diff analyses. The documented effect is economically meaningful: a one-unit increase in *IPR* decreases the probability of a debt crisis by 5 percentage points in the next year. This is substantial, considering that our sample's unconditional default probability is 17%. The results hold for both emerging and developed countries, and the pre- and post-World War II (WWII) periods.

Second, *IPR* delivers accurate signals on crisis probabilities. It has a significantly higher signal-to-noise ratio than a toss-a-coin case and is quantitatively as important as other better-known early warning indicators of debt crises—such as the debt-to-GDP ratio, inflation, and domestic political stability—in signaling such crises.[3] In addition, *IPR* has notably high out-of-sample pseudo-R^2s across various training periods, with comparable predictive ability to that of the debt-to-GDP ratio, while outperforming other indicators.

Third, we study a possible mechanism by which a country's international political relations might alter its external debt default risk and find that countries with higher *IPR* scores attract larger capital inflows. Specifically, a one-unit increase in *IPR* translates into a 4.4% increase in portfolio inflows as a share of GDP. We then investigate whether *IPR* explains the short- or long-term fluctuations in capital inflows (or the "natural" slow-moving part of capital inflows as introduced in Burger et al. (2022)). We find that *IPR* is significantly related to the latter, suggesting that a country's international political stance is vital in shaping sustained capital flow patterns.

[3] *IPR* has an area under the receiving operating curve (AUROC) value of 84%, with a 95% confidence interval of [83%, 86%], significantly outperforming the toss-a-coin benchmark. The AUROC of 84% is substantially higher than the 72%, 76%, and 67% reported by Schularick and Taylor (2012), Danielsson et al. (2018), and Herrera et al. (2020) for the ability of credit expansion, low risk, and political booms respectively to predict banking crises.

Finally, we study whether international political relations help reduce the economic costs that a defaulting country faces. We use (1) GDP growth as a metric to quantify the domestic output loss following a default and (2) credit to nonfinancial corporations to gauge the extent to which these costs are attributable to the financial system. We also use, as a proxy for the funding costs of a country, the sovereign bond yield spreads (Borensztein and Panizza, 2009; Morelli and Moretti, 2023). We find that, following a default, higher *IPR* countries rebound more easily than their peers, with a milder output loss and credit crunch shock, as in the model of Gennaioli et al. (2014). Furthermore, a default episode increases a country's sovereign spread significantly, but tight international political relations partially mitigate the elevated post-default yields.

Our work is related to two strands of the existing literature. First, there is a vast literature on the drivers of sovereign defaults (see, e.g., Reinhart et al., 2003b; Reinhart and Rogoff, 2004; Dieckmann and Plank, 2012; Tomz and Wright, 2013; Catão and Milesi-Ferretti, 2014; Jeanneret, 2015; Trebesch, 2019). These studies are either silent on the effects of politics on default or focus solely on domestic politics—including the distribution of political power, the competitiveness of elections, or the presence of coups or riots (see, e.g., Andreasen et al., 2019; Trebesch, 2019; Citron and Nickelsburg, 1987; Hatchondo et al., 2009). Exceptionally, Ambrocio and Hasan (2021) and Barro and Lee (2005) investigate how a country's similarity to the U.S. in terms of political preferences affects its borrowing conditions. Second, there is an emerging literature examining how geopolitical factors—including trade wars, geopolitical tensions, and regional conflicts—shape economic landscapes and vice versa. Within this group, some studies focus on the importance of geoeconomics or fragmentation, examining them through various lenses such as trade dynamics (see, e.g., Korovkin and Makarin, 2023; Thoenig, 2023; Konrad, 2023; Crosignani et al., 2024), friend-shoring practices (see, e.g., Aiyar et al., 2024; Javorcik et al., 2023), commodity markets (see, e.g., Alvarez et al., 2023; Bolhuis et al., 2023), and financial outcomes (see, e.g., Correa et al., 2023; Niepmann and Shen, 2024).

This paper makes three contributions to the aforementioned literature. We first provide supporting evidence on the importance of geopolitics for macro outcomes by uncovering a novel and robust link between a nation's international political stance and its sovereign default risk. Second, we introduce a historical index that quantifies the bilateral political ties for 152 countries from the 1880s and thus, add a broad historical and cross-sectional perspective on the drivers of sovereign defaults. Finally, we provide the first evidence that tight international political relations mitigate the adverse effects of sovereign debt crises. Debt crises are still very costly, but we find that in case of a default, countries with stronger international political ties rebound more easily than an average country. High *IPR* countries benefit from milder credit-crunch shock and lower economic costs, suggesting that the shock to the sovereign is not amplified within the banking system.

The rest of the paper is organized as follows. In Sections 2.1 and 2.2, we explain the construction of *IPR* followed by its descriptive analysis. Sections 2.3 and 2.4 introduce the sovereign debt crisis data and control variables, respectively. In Section 3, we provide the empirical methodology and results, including robustness analyses. Finally, Section 4 concludes.

2 Data and Descriptive Analysis

2.1 International political relations index: Construction

IPR quantifies the international political stance of a country in a given year and spans the period from 1880 to 2014 for 152 countries.[4] Specifically, a country is assigned a higher *IPR* score compared with its peers when it has (1) fewer military conflicts with other countries, (2) many military treaties, (3) a higher number of diplomatic representations in other countries, and (4) a higher number of memberships of IGOs.

We construct *IPR* in four steps. First, we quantify a country's bilateral degree of military cooperation, in terms of both conflicts and alliances with its peers. For conflicts, we use the bilateral Militarized Interstate Dispute ("bilateral conflicts") data collection of Palmer et al. (2022), which covers conflicts for 195 countries

[4]Because of data limitations, our sample ends in 2014. However, our historical approach allows us to learn lessons on the relationship between *IPR* and debt default risk from nearly two centuries of data, thereby providing comfort about the timelessness of our results.

between 1816 and 2014. The series decreases as the hostility level rises: a value of 6 indicates no military dispute between two countries; 5, no militarized action; 4, a threat to use force; 3, a display of force; 2, the use of force; and 1, a war between the two countries.

For alliances, we use the Formal Alliance ("bilateral alliances") data of Singer and Small (1966), Small and Singer (1969), and Gibler (2009). The bilateral alliances data include 180 countries and span the period from 1880 to 2012, providing three types of alliances: defense pact, neutrality treaty, and entente agreement. The series increases with the strength of the signed pact: we assign a value of 0 if the two countries do not have any alliances, 1 for an entente pact, 2 for a neutrality pact, and 3 for a defense pact.

Second, we consider political multicontinental connections and networks by quantifying the number of memberships of IGOs and diplomatic exchanges among countries, in line with Kearney (2006) and Dreher (2006). To obtain the number of organizations of which a country is a member, we use the state membership ("IGO") data of Wallace and Singer (1970) and Pevehouse et al. (2020), which cover 216 countries for the period from 1880 to 2014.

For diplomatic exchanges, we use bilateral diplomatic exchange ("dipex") data from the COW Project. The data provide diplomatic representations between two countries at the chargé d'affaires, minister, or ambassador level over the period 1817–2005, every five years, for 213 countries. There are five possible codings, with an increasing representation level: a value of 0 when there is no evidence of diplomatic exchange between the two countries, 1 if one country has a diplomatic presence in the other, including consulate general, 2 at the level of chargé d'affaires, 3 at the minister level, and 4 at the ambassador level.[5]

Third, we calculate country-level conflicts, alliances, IGOs, and dipex from the bilateral data. Specifically, from the bilateral conflicts data, for instance, we achieve a country-level conflicts index by calculating the GDP-weighted averages of the

[5]The diplomatic representations are provided every five years; thus, we repeat the most recent observation for the missing years. Moreover, between 1950 and 1965, all diplomatic exchanges were coded as "chargé d'affaires" or "no representation". As a result, we treat data for that period as missing. In Section 3.7, we instead use the data from Moyer et al. (2022), who provide annual diplomatic representations from 1960 to 2020, and conclude that the main findings hold.

countries' hostility levels where i has a conflict with another country in a given year t.

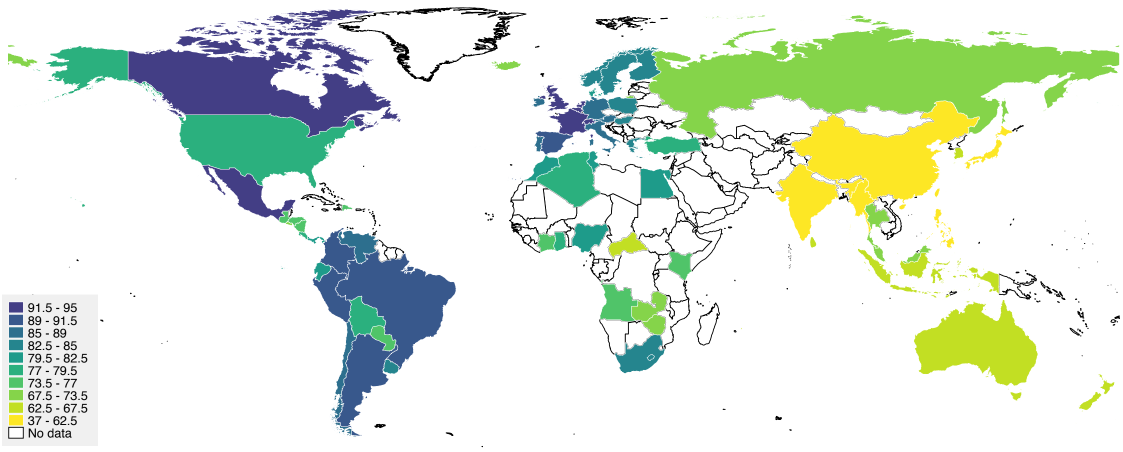
Finally, we calculate $IPR_{i,t}$ by averaging the standardized country-level conflicts, alliances, IGOs, and dipex. When data are missing in any of those series, we calculate the average of the remaining data. To ease the interpretation, we normalize $IPR_{i,t}$ to a scale from 1 to 100 according to the percentiles of the distribution. A value of 100 is assigned to the country-year pair with the strongest political relations across the whole sample, whereas a value of 1 corresponds to observations with the weakest political relations.

2.2 International political relations index: Stylized facts

Figure 1 uses a heat map to illustrate the sample coverage of the *IPR* index at the end of the sample period. Two observations emerge from this figure. First, we have a wide geographical coverage, with gaps mainly in Africa and the Middle East. Second, *IPR* produces meaningful rankings across countries. Broadly, North American, Latin American, and European countries have tighter international political links than do Asian and African countries.

Figure 1: Geographic distribution of international political relations

The heat map visualizes individual countries' international political relations (*IPR*) scores at the end of the sample period. The darker regions correspond to higher *IPR* scores. White regions correspond to countries with missing data. Source: Authors' calculations based on data from the Correlates of War Project. Specifically, the Militarized Interstate Dispute data collection of Palmer et al. (2022), the Formal Alliance data of Singer and Small (1966), Small and Singer (1969), and Gibler (2009), Diplomatic Exchange data, and the State Membership data of Wallace and Singer (1970) and Pevehouse et al. (2020).



In Table 1, Panel A, we present the 10 countries with the highest average *IPR* scores for the pre- and post-WWII periods.[6] Accordingly, Canada has had the highest *IPR* score in recent decades, followed by several European countries including Belgium and the Netherlands. On aggregate, Latin American countries have high IPR scores, partly due to enhanced regional cooperation initiatives, such as the Union of South American Nations and the Pacific Alliance, and evolving relations with the U.S., Russia, and the European Union. The United Kingdom, Belgium, the Netherlands, France, Portugal, and Switzerland have consistently ranked among the most politically connected countries.

In Figure 2, we plot the cross-sectional averages of the country-level *IPR*s over the sample period. We also include IPR^{Military}, which is obtained by aggregating the bilateral conflicts and bilateral alliances data, and $IPR^{\text{Integration}}$, which is calculated analogously by aggregating and averaging the bilateral dipex and IGO data. Relatedly, we report average *IPR*s for different subsamples in Table 1 Panel B, reaching several conclusions.

First, *IPR* is well correlated with its military and integration components, with a broad increasing trend throughout the sample period. Of note, we reject the null hypothesis that *IPR* has a unit root at the 1% level using the augmented Dickey-Fuller stationarity test.

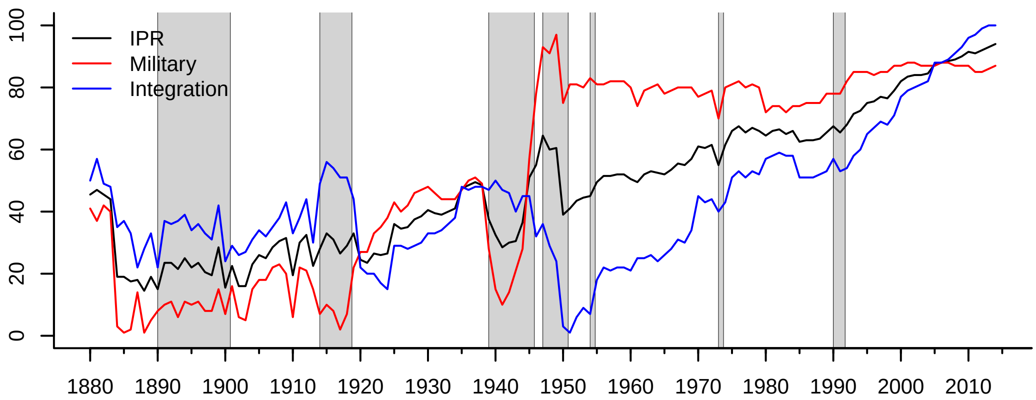
Second, the average *IPR* is 60 for the entire sample, being slightly higher in developed countries than in emerging ones (Table 1, Panel B). For the pre-modern era (pre-1913), the average *IPR* is 46, signifi cantly lower than the full-sample average. We also observe that *IPR* is particularly volatile during that period (Figure 2), partly driven by various wars and political tensions among countries, including World War I (WWI), the Napoleonic Wars in Europe, and the American Civil War in North America.

Third, during the pre-WWII era (pre-1938), globalization increased partly thanks to advancements in transportation and communication, but military conflicts continued to be present, and thus we observe only slightly increased *IPR* scores, on average, compared with the pre-modern era. Figure 2 also shows significant drops in *IPR* during WWII, driven by very low IPR^{Military}.

[6] For the sake of brevity, scores for the whole sample (for all countries and years) are not presented; however, they are available from the authors upon request.

Figure 2: International political relations index

This figure presents the time-series plot of the international political relations index (*IPR*) along with IPR^{Military} and $IPR^{\text{Integration}}$. *IPR* is introduced in 2.1. IPR^{Military} quantifies a country's degree of international military cooperation, both in terms of conflicts and cooperation treaties, whereas $IPR^{\text{Integration}}$ measures a country's political integration with other countries in terms of diplomatic exchanges and membership of international governmental organizations (IGOs). After we get the scores for all indexes for each country and year, we report the cross-sectional averages, spanning from 1880 to 2014. The 1890–1900 (early period), 1914–1918 (WWI), 1939–1945 (WWII), 1947–1950 (foundation of NATO), 1954 (Warsaw Pact), 1973 (end of Vietnam War), and 1990–1991 (Gulf War) periods are highlighted. Source: Authors' calculations based on data from the Correlates of War Project. Specifically, the Militarized Interstate Dispute data collection of Palmer et al. (2022), the War Formal Alliance data of Singer and Small (1966), Small and Singer (1969), and Gibler (2009), Diplomatic Exchange data, and the State Membership data of Wallace and Singer (1970) and Pevehouse et al. (2020).



Fourth, we observe an overall increasing trend after WWII. Experiencing two world wars encouraged a small number of countries to establish a commercial and financial relations union, leading to the Bretton Woods era (1946–1972), during which political tensions were reduced on aggregate. The United Nations—an IGO whose stated purpose is to achieve international cooperation among nations—was founded in 1945. Furthermore, NATO was founded in 1949, and the Warsaw Pact Defense Treaty was initiated in 1955 by the Soviet Union. Both developments further increased political connections among countries, leading to higher *IPR* scores on average.

Following the end of the Vietnam War (during the mid-1970s) and the Gulf War (at the beginning of the 1990s), a reversal in the drop of all *IPR* indexes is observed, as shown in Figure 2. *IPR* has been especially high in recent decades, consistent with there having been fewer political conflicts and higher integration between countries, partially thanks to eased communication and transportation among countries. In particular, the average *IPR* is one of the highest, at 65, during the Great Moderation period (1985–2006), as shown in Table 1 Panel B. The period is characterized by very low macroeconomic uncertainty and high prosperity, especially in developed countries. It also features increased globalization and political representation because of technological developments such as the commercial usage of the internet and airplanes.

Finally, in Table 2, we present the cross-sectional averages of country-level Pearson correlation coefficients and the corresponding p-values between *IPR* and proxies for (1) political, economic, and financial integration, (2) domestic political stability, and (3) global geopolitical risk.

We find that *IPR* is well correlated with relevant political stability, risk, and integration series. *IPR* and the KOF political and financial globalization indexes, introduced by Dreher (2006) and maintained by the Swiss Economic Institute, are positively correlated, with Pearson correlations of 0.77 (IPR and KOF political) and 0.65 (IPR and KOF financial globalization). Similarly, *IPR* is well correlated with the Chinn-Ito index (KAOPEN), which measures a country's degree of capital account openness. Furthermore, we include trade openness (OPEN), defined as the sum of exports and imports as a share of GDP, as it is a standard measure of a country's economic links with the rest of the world. As expected, economic and political links are correlated but measure different dimensions.

We then use POLCOMP, from the Polity IV Project database, as a proxy for domestic political stability, as in Cerra and Saxena (2008) and Danielsson et al. (2018). POLCOMP measures the degree of institutionalization or regulation of political competition and the extent of government restrictions in a given country. Importantly, we see that domestic stability and international political stability are significantly correlated but at about 30%, revealing they capture different dimensions of a country's politics. Finally, we include the GPR of Caldara and Iacoviello (2022) and conclude that it is correlated with *IPR*.

2.3 Sovereign crisis data

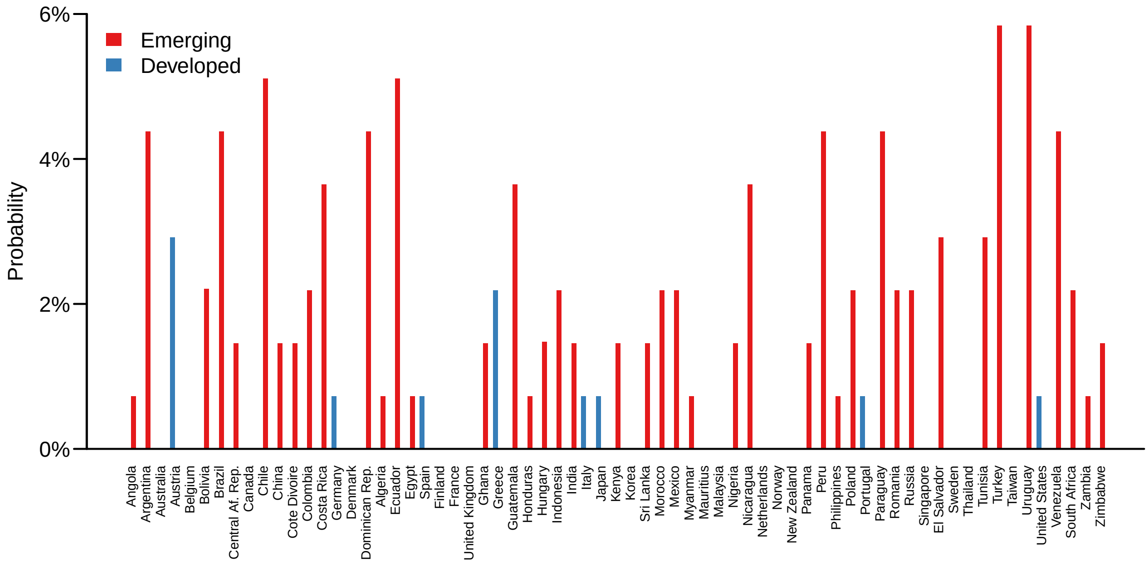
To measure the sovereign defaults, we use the Reinhart and Rogoff (2009b) database.[7] Accordingly, a sovereign default is defined as (1) the failure to meet a principal or interest payment on the due date or (2) a situation where there is a restructuring of the debt via a settlement between creditors and the debtor government in terms less favorable than the original obligation. The sample includes 70 countries from 1800 to 2016, providing over 15,000 country-year observations.

In Figure 3, we illustrate each country's annual unconditional crisis probability, defined as the number of default events divided by the available sample period. Many developed countries have not defaulted on their sovereign debt over the last two centuries. On the contrary, almost all emerging countries have experienced at least one default. Emerging countries are, on average, almost five times more likely to default than developed countries. In particular, for emerging countries, the unconditional probability ranges from 0% in Mauritius, Malaysia, and Thailand to 4.27% in Brazil, Chile, Ecuador, Turkey, Uruguay, and Venezuela. Looking at defaults from 1900, we find that the unconditional probability of default reaches 7.78% in Turkey.

[7] The Behavioral Finance and Financial Stability project at Harvard Business School keeps these data updated and makes them available at `https://www.hbs.edu/behavioral-finance-and-financial-stability/data/Pages/global.aspx`

Figure 3: Unconditional annual probability of sovereign defaults

In this figure, we present the probability of sovereign default crises for emerging and developed countries. The emerging and developed countries' classifications are adopted from the International Monetary Fund (IMF) definition. For a given country, the probability of a sovereign default crisis is calculated as the number of crises divided by the available sample period. Source: Authors' calculations based on Reinhart and Rogoff (2009b) data.



2.4 Control variables

We control for variables that are known to be predictors of sovereign defaults. It has been widely documented, since Edwards (1984) and Sachs and Cohen (1982), that government debt levels significantly affect the likelihood of a sovereign default. Hence, we include the gross central government debt-to-GDP ratio, $Debt/GDP$, obtained from the International Monetary Fund (IMF) database.

Domestic political stability is related to sovereign debt and defaults (see, e.g., Trebesch, 2019; Citron and Nickelsburg, 1987; Hatchondo et al., 2009). We control for the possible effects of domestic political stability by including POLCOMP in the regressions.

Inflation affects the frequency of sovereign defaults (see, e.g., Sunder-Plassmann, 2020; Arellano et al., 2018). We calculate inflation as the annual percentage change in the consumer price index, obtained from Global Financial Data (GFD).

Furthermore, we include GDP growth, calculated as the change in the natural logarithm of GDP per capita. Data are from Maddison (2003), who provides historical GDP, available at `https://www.rug.nl/ggdc/`. We also include the natural logarithm of GDP per capita ($\ln GDP$) as a proxy for a country's development level.

Finally, *IPR* can be closely related to a country's economic integration with the rest of the world, for which we use OPEN as a proxy. Moreover, sovereign defaults and trade openness are shown to be significantly related, given that disruptions in international trade are used as default sanctions (see, e.g., Zymek, 2012; Borensztein and Panizza, 2010). Data for imports and exports are obtained from the COW database.

Table 3 presents summary statistics for the control variables. As expected, developed countries have higher domestic political stability and debt-to-GDP ratios, lower inflation, and a lower frequency of past crisis episodes. The mean differences are statistically significant at 1%. All variables have significant variation.

3 Empirical Methodology, Identification, and Results

3.1 Econometric set-up

To study the effects of international political relations on a country's sovereign default risk, we run the following panel probit regressions at the country-year level:

$$D_{i,t} = \alpha + \beta IPR_{i,t-1} + \lambda AD_{i,t-1 \text{ to } t-20} + \gamma X_{i,t-1} + \nu_d + \delta_c + \epsilon_{i,t}, \qquad (1)$$

where $D_{i,t}$ is a dummy variable that equals 1 if country i suffers from a sovereign debt default in year t, $IPR_{i,t-1}$ is the lagged international political relations index, and $X_{i,t-1}$ is the set of control variables introduced in Section 2.4 (the government debt-to-GDP ratio, domestic political stability, inflation, (log) GDP per capita, the GDP growth rate, and trade openness).[8] $AD_{i,t-1 \text{ to } t-20}$ is country i's accumulated

[8]Our results could reflect the effects of financial integration. In Section 3.7, we control for financial integration using the Euler equation, following Levine and Zervos (1998). We leave the

default episodes during the last 20 years. *IPR* is available for 152 countries from 1880 to 2014. However, sovereign defaults and other series are more limited in time and in the cross-section, which leaves us with a sample coverage for our baseline regression of 48 countries from 1890 to 2014.

γ_d and γ_c are decade- and continent-fixed effects, respectively, to control for global trends in defaults and unobservables that might co-vary with the regressors. We omit a more granular set of fixed effects to avoid biases arising from the incidental parameters problem in nonlinear panel data models with fixed effects (Neyman and Scott, 1948).[9] Standard errors are clustered at the country and year level to address time-series and cross-country correlations of residuals.

3.2 Identification

Specification (1) implicitly assumes that a country's international political relations are entirely exogenous from its debt crisis probability. However, reverse causality is a possibility: instead of political relations affecting default, a country's default may alter its political stance. Furthermore, an omitted variable may alter expectations about future economic fundamentals, affecting both default risk and political relations.

We employ two approaches to alleviate such identification concerns: First, we employ two-stage IV regressions by constructing an instrument for *IPR* (gravity-*IPR*). Second, we adopt a staggered diff-in-diff strategy to analyze how sovereign default responds to changes in *IPR*.

3.2.1 Gravity-*IPR*

To estimate gravity-*IPR*, we use the gravity model of Frankel and Romer (1999), widely used in the international trade literature. The model postulates that bilateral trade depends on the economic sizes of and distance between the two countries, among other country-specific predetermined characteristics.

inclusion of financial integration for a robustness check, as the sample size decreases significantly due to limited coverage.

[9] We recognize that the chosen fixed effects may potentially play a role in generating the results. To check the robustness of our findings with different fixed effects, we conduct several robustness checks, presented in Section 3.7.

Analogously, we argue that bilateral political relations also depend on predetermined country characteristics, and therefore, the gravity-predicted values are expected to be valid instruments. First, it is reasonable to expect two countries to have stronger political connections if they are geographically closer or share some characteristics, such as a common language or colonial roots. Second, the *predetermined* geographic characteristics are orthogonal to a country's probability of default. It is unlikely that they affect the occurrence of a crisis other than through their effect on *IPR* (or trade relations, which are controlled in the main specifications). Put differently, gravity-*IPR* is well correlated with *IPR* and plausibly exogenous.

To estimate gravity-*IPR*, we obtain a bilateral *IPR* index by averaging four scaled bilateral series: military conflicts, alliances, number of diplomatic representations, and number of IGOs. We then estimate the gravity instruments by running the following regressions for each country i and year t separately:

$$\begin{aligned} \log IPR_{i,j,t} &= \alpha + \beta_1 \log dist_{i,j} + \beta_2 comlang_{i,j} + \beta_3 border_{i,j} \\ &\quad + \beta_4 colony_{i,j} + \varepsilon_{i,j,t}, \end{aligned} \tag{2}$$

where $IPR_{i,j,t}$ is the bilateral *IPR* index quantifying the political relations among countries i and j in year t. $dist_{i,j}$ is the distance between the economic centers of the two countries, $comlang_{i,j}$ is a dummy variable that takes the value 1 if the two countries share the same language, and 0 otherwise, $border_{i,j}$ is a dummy variable that takes the value 1 if the two countries share a border, and 0 otherwise, and, finally, $colony_{i,j}$ is a dummy variable that takes the value 1 if country i has ever had a colonial link with country j, and 0 otherwise.

By running (2) for each country i and year t separately, we allow the estimated coefficients to be country-i-year specific. This approach enables us to account for any factors that vary along country i $\times$ year, making our methodology more conservative than including country i $\times$ year fixed effects in a pooled sample. Nevertheless, in the Robustness section, we re-estimate (2) as a pooled panel model while including country i $\times$ year fixed effects, reaching similar findings.

We then obtain the exponential of the predicted value from (2), $\widehat{IPR}_{i,j,t}$. Finally, the country-level gravity estimates ($gravity - IPR_{i,t}$) are obtained as the GDP-weighted average of $\widehat{IPR}_{i,j}$ across countries j for each t:

$$\text{gravity-}IPR_{i,t} = \sum_j \widehat{IPR}_{i,j,t} \times \text{GDP}_{j,t} / \sum_k \text{GDP}_{k,t} \quad (3)$$

3.2.2 The staggered diff-in-diff methodology

We implement a staggered diff-in-diff strategy as a second approach to address identification concerns. Specifically, our framework is set up as an event study where the treatment variable is defined as the change in the treatment status $\Delta IPR = IPR_{i,t} - IPR_{i,t-1}$. Given that significant changes in IPR occur at various points in time for different countries with different magnitudes, our event study comprises multiple treatments with varying treatment intensities.

To this end, we run the following regression:

$$\begin{aligned} D_{i,t} = {} & \alpha + \beta_{12^-} \sum_{j=-\infty}^{-12} \Delta IPR_{i,t-j} + \sum_{j=-11}^{11} \beta_j \Delta IPR_{i,t-j} + \beta_{12^+} \sum_{j=12}^{\infty} \Delta IPR_{i,t-j} \quad (4) \\ & + \lambda AD_{i,t-1 \text{ to } t-20} + \gamma X_{i,t-1} + \nu_d + \delta_c + \epsilon_{i,t}, \end{aligned}$$

The parameter β_j is the dynamic treatment effect j periods after ($j > 0$) or before ($j < 0$) the event. We adopt a "binning" approach, i.e., we assume a constant treatment effect outside the event window. This approach is particularly advantageous for identifying causal effects in the presence of multiple treatments, as discussed by Schmidheiny and Siegloch (2023). We assume an event window of 12 leads and 12 lags. However, we explored different effect window lengths to confirm our results. Finally, following the standard approach, we normalize the pre-event coefficient $\beta_{-1} = 0$.

3.3 Sovereign crises and political relations

Table 4 columns I and II report the results for the panel-probit regressions of sovereign crises on international political relations, using the *IPR* index as the main explanatory variable. The results show that *IPR* is negatively related to sovereign default probability, with and without the additional controls, including the debt-to-GDP ratio and domestic political stability.

In columns III to VI, we rely on two-stage IV probit regressions to examine the explanatory power of international political relations for debt crises, while using gravity-*IPR*—introduced in Section 3.2.1—as an instrument for *IPR*. The first-stage results show a significant relation between *IPR* and gravity-*IPR*, with an F-statistic significantly over 10. Finally, the negative and significant coefficient in the second stage, reported in column IV, confirms our main finding: a country's international political relations affect its sovereign debt crisis probability. The estimated marginal effect shows that the effect of *IPR* on the probability of a sovereign debt crisis is economically meaningful: when *IPR* increases by one unit, the probability of a debt crisis decreases by 5 percentage points in the next year. This effect is substantial, considering our sample's unconditional default probability is 17%. The economic impact when we use an IV estimation is larger than when we do not consider potential endogeneity issues—reported in column II—suggesting there is considerable bias in the standard panel estimates.

Next, we examine heterogeneities in the effect of political relations on debt crises. Our sample contains different subperiods, both emerging and developed economies, and diverse political structures and developments. For instance, sovereign defaults have been proven to be a more serious phenomenon for emerging than developed countries (see, e.g., Shleifer, 2003). Furthermore, business cycles in emerging economies differ from those in developed economies (see Aguiar and Gopinath, 2007; Neumeyer and Perri, 2005), and emerging economies are likely to exhibit procyclical government expenditure (Gavin and Perotti, 1997; Talvi and Vegh, 2005). Moreover, as Figure 2 visualizes, *IPR* has changed considerably over time, with developments such as wars, the establishment of military treaties, and globalization.

Table 4 column V shows that the negative effect of *IPR* on debt default risk holds for both emerging and developed countries, with very similar economic and statistical impacts. Moreover, the *IPR*–default relationship holds for both pre- and post-WWII periods (column VI), with the estimated coefficients for the two periods not statistically different from each other.

Besides *IPR*, we find that high inflation and public debt levels are significantly associated with higher sovereign default probability. Moreover, there is evidence of serial defaulters in line with the "debt intolerance" concept of Reinhart et al. (2003a): countries that have defaulted during the last 20 years are more likely to default again.

In Figure 4, we present the estimated coefficients of the staggered diff-in-diff methodology introduced in Section 3.2.2. The absence of the pre-event trend indicates that the assumption of parallel trends is not violated. Following the event at $t = 0$, the estimated effect is significant and remains fairly constant. The response to changes in *IPR* is relatively immediate and the "binned" estimate for the final period ($t + 12$) is consistent with estimates from previous periods. This finding suggests that the treatment effect stabilizes over time and aligns with the notion of a persistent treatment effect in response to changes in *IPR*.

Overall, both IV-probit regressions and diff-in-diff analyses corroborate our conjecture and enhance our confidence in the causal effect of stronger international political relations in reducing sovereign defaults.

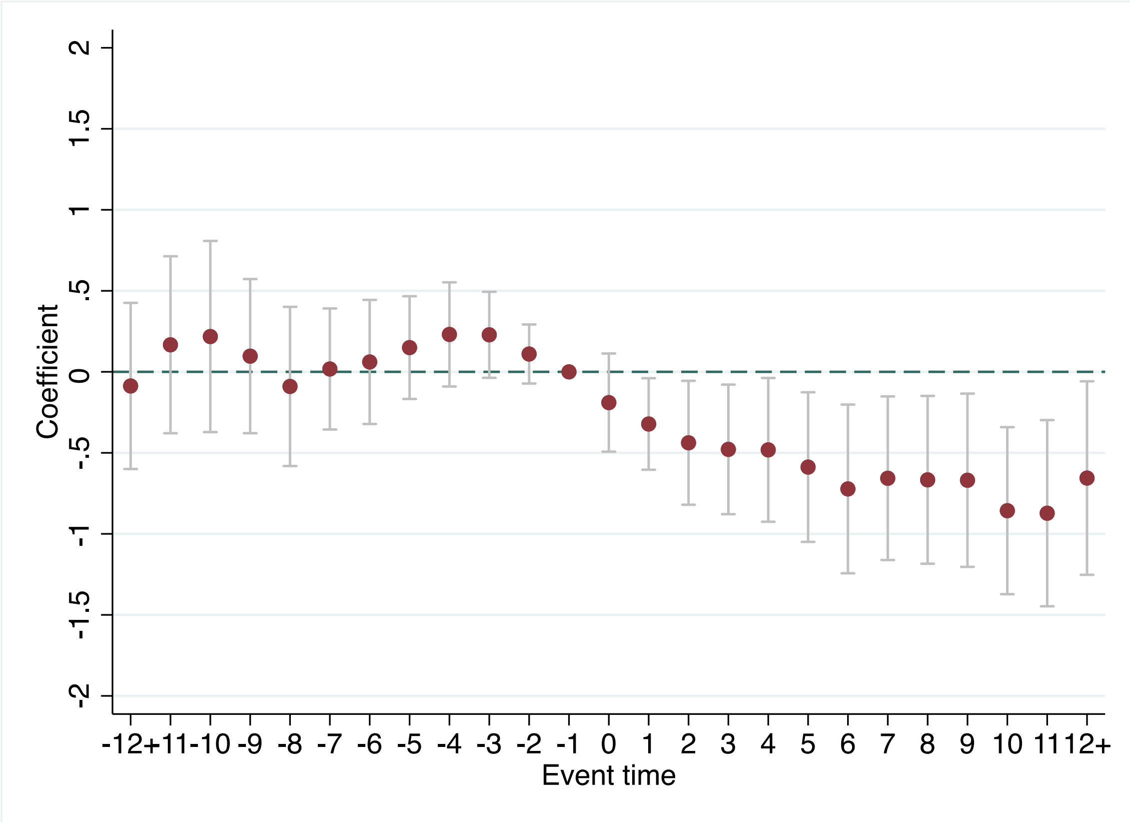
Our findings complement the vast literature on the determinants of sovereign defaults by providing evidence that the international dimension of politics plays an independent role in predicting debt crises. *IPR* contains additional explanatory power for default risk beyond the standard predictors of sovereign defaults, including the debt level, inflation, and domestic political stability. Countries with solid international political cooperation, fewer conflicts, and stronger political connections with their peers are less likely to suffer from a sovereign debt crisis.

3.4 Reliability of *IPR* as a debt crisis predictor

We examine whether *IPR* is a valuable crisis indicator by relying on four metrics. First, we calculate the percentage of crises that *IPR* correctly predicts. Second,

Figure 4: Effects of international political relations on sovereign default probability: A difference-in-differences approach

The figure illustrates the staggered difference-in-differences estimates and 95% confidence intervals of the effects of *IPR* on the probability of sovereign default following the methodology introduced in Section 3.2.2.



we assess the accuracy of the correctly predicted outcomes during both crisis and non-crisis periods, similarly to Brasington (2003) and Beck et al. (2018). Third, we calculate the degree of the signal-to-noise ratio using the AUROC curve. Finally, we examine the out-of-sample forecasting performance of *IPR* in predicting sovereign debt crises.

We start by calculating the percentage of crises that are correctly predicted by *IPR* and compare *IPR*'s in-sample forecasting power to that of the standard predictors of debt crises. In particular, we run five panel probit regression models, with the debt crisis indicator being the dependent variable. Models 1 to 4 use *IPR*, the debt-to-GDP ratio, inflation, and political stability, respectively, as the sole explanatory variable (along with cross-section and time fixed effects). Model 5 then combines all four variables in a single specification. To identify the correctly predicted crisis probability, we compare the fitted value of each model with the unconditional probability of the debt crises (17% in our case). We find that the *IPR* index alone (Model 1) correctly identifies crises in 68% of cases, as reported in Panel A of Table 5. Furthermore, *IPR* demonstrates superior prediction ability compared with the individual performance of the other series, as evidenced in Models 2 to 4. Finally, adding the series together increases this rate only marginally, to 74%.

Second, according to McIntosh and Dorfman (1992), the prediction method is of value only if the sum of the fraction of correctly predicted crisis periods over actual crisis periods and the fraction of correctly predicted non-crisis periods over actual non-crisis periods exceeds 100%. Remarkably, this cumulative percentage reaches 152% when solely using the *IPR* index (Model 1 of Panel B). This percentage is slightly lower in the subsequent three models, which consider the other predictors, and rises to 158% when all predictors are included in the analysis.

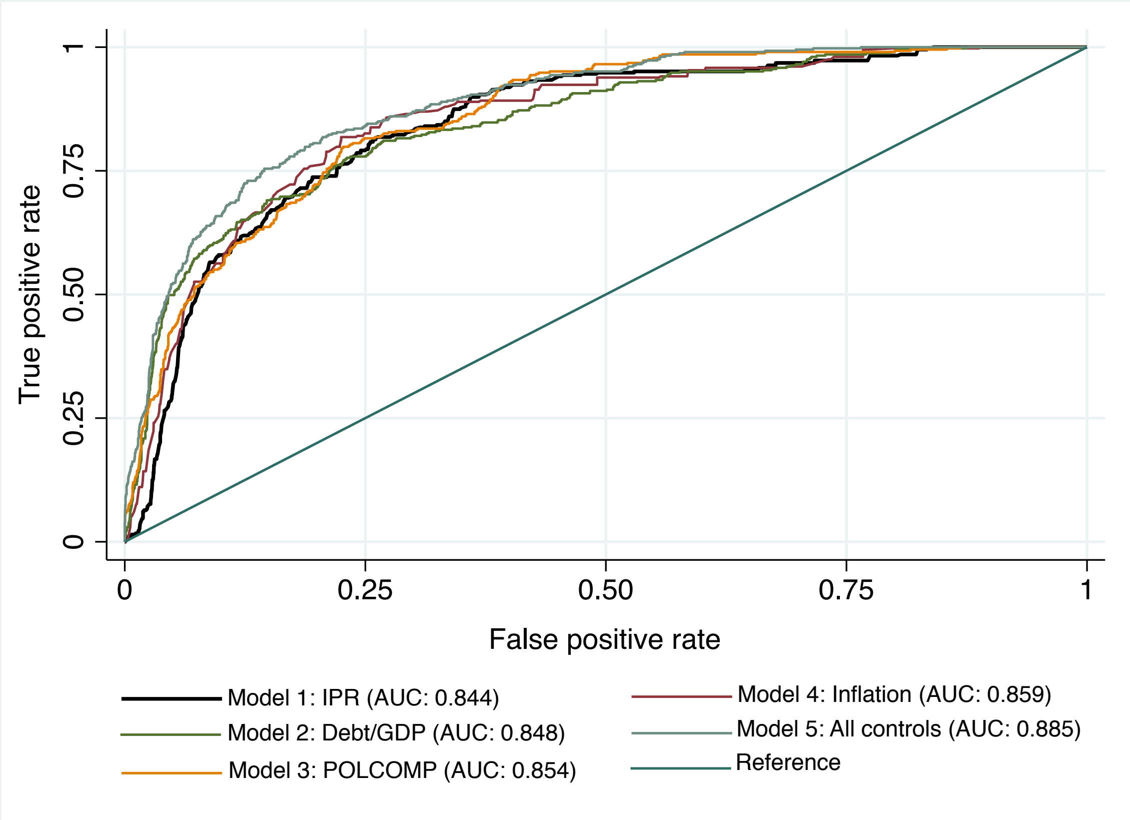
Third, Figure 5 and Table 5 Panel C show that *IPR* provides accurate signals on debt crisis probabilities based on the AUROC curve. The curve evaluates the power of a signal as an early warning indicator by calculating the tradeoff between the signaled true positives (the fraction of correctly predicted crises) and false positives (the fraction of false alarms). A value of 50% indicates that a model is no better than a signal provided by a coin toss, while 100% means perfect predictability.

IPR has an AUROC value of 84%, with a 95% confidence interval of $[83\%, 86\%]$, significantly outperforming the toss-a-coin benchmark. The AUROC of 84% is substantially higher than the 72%, 76%, and 67% reported by Schularick and Taylor (2012), Danielsson et al. (2018), and Herrera et al. (2020) for the ability of credit expansion, low risk, and political booms respectively to predict banking crises. Furthermore, the estimated AUROC value for *IPR* is quantitatively very similar to that produced by standard predictors of debt crises (Models 2 to 4), while the AUROC values are not statistically different from each other. When we include all four variables together, the accuracy increases to 88% (Model 5).

Finally, we examine the out-of-sample forecasting ability of *IPR*. Accordingly, we split the data into two subsample periods: the training period ($Ttrain$) and the testing period ($Ttest$) with $Ttrain + Ttest = T$, where T is the total number

Figure 5: The area under the receiving operating curve (AUROC)

In Models 1 to 4, we run panel probit regressions, where the debt crisis indicator is the dependent variable and *IPR*, the debt-to-GDP ratio, political stability, and inflation are the sole explanatory variables (along with cross-section and time-fixed effects), respectively. Model 5 combines all four variables in a single specification.



of years. Using observations up to $Ttrain$, we estimate the baseline IV-probit regression model from (1) and calculate the next year's predicted crisis probability. For instance, when using information up to 1970 (training period), we compute each country's predicted probability of a crisis in 1971. Subsequently, we conduct a rolling analysis by using the pre-1972 period to predict crises in 1972, the pre-1973 period for crises in 1973, and so forth. Finally, we calculate the cross-sectional averages of the pseudo-R^2, following the methodology of Estrella and Mishkin (1998). An accurate forecast from *IPR* should yield a positive pseudo-R^2.

Panel D shows that the pseudo-R^2 ranges between 16% and 26% across various training periods set between 1970 and 2000. As a comparison, we perform the same analysis but use the other predictors as the primary explanatory factors, with the results presented in the subsequent three columns of Panel D. Notably, *IPR* outperforms all commonly used crisis indicators but the debt-to-GDP ratio, the latter having predictive power comparable with that of *IPR*.

Overall, we conclude that *IPR* is a reliable indicator of future debt crises, demonstrating both in- and out-of-sample forecasting power. It exhibits a robust signal-to-noise ratio and, thus, policymakers can use *IPR* as an early warning indicator.

3.5 Why do international political relations affect the probability of sovereign defaults?

Although many factors could act as a means through which international political relations affect sovereign debt defaults, we focus on one plausible channel: international capital flows. We argue that stronger political relations will attract capital inflows, which in turn alter a country's sovereign debt defaults. The reason is that investors are guided by perceptions of risk when allocating funds in international capital markets (Danielsson et al., 2023), and enhanced political relations with its peers decrease a country's perceived political risk. In addition, sound international political connections decrease the restrictions imposed on capital flows, including capital controls, financial sanctions, and international asset freezing (IMF GFSR, April 2023). Increased capital inflows, in turn, affect sovereign default risk, as shown in the extant literature. On the one hand, sustained capital inflows may reduce sovereign defaults by improving a country's economic or financial outlook (see, e.g., Gennaioli et al., 2014). On the other hand, they may increase vulnerabilities (such as the likelihood of sudden stops) and sovereign defaults (see, e.g., Reinhart et al., 2016).

While investigating the effects of *IPR* on capital inflows, we take one further step and discern the long-term and short-term fluctuations. Capital flows are very volatile, posing challenges in determining the likelihood of the current flow levels persisting in the future. Burger et al. (2022) develop the notion of a "natural level" of capital flows—analogous to long-term trends in other key economic indicators, such as the natural rate of unemployment—around which actual flows fluctuate. However, Burger et al.'s (2022) measure is available only from the 2000s, so instead, we separate capital inflows into a slow-moving component (the trend, or natural level) and a cyclical component (the deviation of flows from the trend) by employing a one-sided Hodrick and Prescott (1997) (HP) filter.

We then examine whether international political relations are useful in explaining capital flows by running the following regression:

$$Y_{i,t} = \alpha + \beta IPR_{i,t-1} + \gamma X_{i,t-1} + \nu_i + \delta_t + \epsilon_{i,t}, \tag{5}$$

where the dependent variable, $Y_{i,t}$, is (log) capital inflows over GDP, the capital inflows trend, or the cyclical component of capital inflows. Similarly to Basel Committee on Banking Supervision (2010) and Danielsson et al. (2018), we estimate the trend by running the HP filter recursively through time using only data available up to year t to estimate the trend for year t. We measure capital inflows as the ratio of total portfolio inflows (equity and debt) to GDP and obtain data from the IMF database, which is available for 70 countries from 1970. $X_{i,t-1}$ is the same set of control variables used in the baseline regression (1), and ν_i and δ_t are country- and year-fixed effects. Similarly to what we did with the methodology applied in the preceding section, we employ an IV regression using gravity-*IPR* as an instrument, to estimate these models while accounting for potential endogeneity concerns.

Table 6 shows that a higher *IPR* is associated with higher capital inflows. The estimated coefficients indicate that a one-unit increase in *IPR* this year increases the inflows as a share of GDP next year by 4.4%. Importantly, we find that *IPR* significantly explains the "natural" slow-moving trend in capital flows rather than its cyclical fluctuations, as shown in columns II and III. Thus, a country's international political stance is a significant determinant of sustained capital inflows.

3.6 Political relations and recovery from a default episode

So far, we have shown that a country's international political stance predicts its sovereign debt crisis probability through its effects on capital inflows. In this section, we study whether political relations mitigate the economic costs a country faces following a default episode. We measure economic costs as the (1) reduction in bank credit, (2) decline in GDP, and (3) increase in the sovereign bond yield spreads. We then estimate the following specification using the same IV methodology employed in previous sections:

$$\begin{aligned} Y_{i,t} &= \alpha + \beta D_{i,t-1} + \gamma D_{i,t-1} \times IPR_{i,t-1} + \theta IPR_{i,t-1} \\ &+ \phi X_{i,t-1} + \nu_i + \delta_t + \varepsilon_{i,t}, \end{aligned} \tag{6}$$

where $Y_{i,t}$ is either (1) the (log) credit, (2) GDP growth observed in the period spanning from the year preceding the trigger of a default event to the subsequent year, or (3) the annual changes in short-term sovereign bond yield spreads. We obtain data on credit provided to nonfinancial institutions from the Bank for International Settlements, available from 1953 for 40 countries. Sovereign bond spreads are defined as the difference between a country's three-month government bond and the U.S. three-month bill yields from GFD, available for 78 countries from 1880. $D_{i,t-1}$ is a dummy variable that takes the value 1 if a default is triggered in country i in year $t-1$. $X_{i,t-1}$ is the same set of control variables used in the baseline regression (1), and ν_i and δ_t are country- and year-fixed effects. Standard errors are double-clustered at the year and country level to address a possible cross-country and time-series correlation of residuals.

Table 7 columns I and II show that, once the default is triggered, a country suffers from a significant credit crunch and contraction in GDP, respectively. However, *IPR* mitigates this loss in product output. Countries with tighter international political relations recover more easily from a default episode, displaying smoother credit crunches and output declines than an average defaulting country.

One possible explanation for *IPR* being a mitigating factor lies in the so-called bank-sovereign nexus. When a country has tight international political links, banks can allocate a smaller share of their portfolios to domestic sovereign bonds in favor of foreign ones, thereby reducing the bank-sovereign nexus. This can be because banks in high-*IPR* countries face lower information asymmetries (Van Nieuwerburgh and Veldkamp, 2009) or because they are under less pressure to hold domestic sovereign debt (Acharya and Steffen, 2015). Indeed, a simple mean-differences analysis reveals that high-*IPR* countries exhibit an average domestic-to-foreign ratio of 5, whereas this ratio increases significantly to about 30 for low-*IPR* countries. This difference is statistically significant at a 1% level. In the case of a weak bank-sovereign nexus, therefore, sovereign default is not necessarily transmitted to banks through their government debt holdings. Thereby, banks can continue to supply credit, as in the model of Gennaioli et al. (2014). Finally, Table 7 column III shows that a defaulting country suffers from higher sovereign bond spreads, but high *IPR* mitigates this increased funding cost.

3.7 Robustness

We perform a total of eight robustness tests. First, we include a proxy for financial integration in addition to economic integration (trade openness) as a control variable. We construct it using the Euler equation, following Levine and Zervos (1998), where high levels indicate financially highly integrated countries. It is based on the Euler equation that defines optimal intertemporal consumption. Intuitively, the measure aims to test whether individuals from different countries have access to the same risk-free asset (see Obstfeld, 1986; Montiel, 1994; Levine and Zervos, 1998, for further details). We left financial integration for the robustness analysis because the estimated proxy is highly limited, reducing the sample size significantly.

Second, existing literature shows that banking crises and sovereign defaults are related (e.g., Reinhart and Rogoff, 2009b). Therefore, we obtain banking crisis episodes from Reinhart and Rogoff (2009b) and include a dummy variable that equals 1 when a country is in a banking crisis as an additional control.

Third, we then control for different dimensions of global risk to see whether *IPR* includes information beyond global political uncertainty, political risk, or agents' risk-taking incentives. To this end, we include the Economic Policy Uncertainty index (EPU) of Baker et al. (2016), the GPR index of Caldara and Iacoviello (2022), and the Duration of Low Risk (DLR) index of Danielsson et al. (2023), where the latter measures the investors' risk appetite.

Fourth, we control for the effect of IMF support. If a country receives financial aid and support from the IMF, it may be less likely to default in the next year. At the same time, a high-*IPR* country is more likely to receive aid. Therefore, we exclude country-year observations where the IMF has provided financial support to a country, and rerun the baseline specification.

Fifth, we use an alternative method to estimate gravity-*IPR*. Specifically, we estimate the model in equation (2) as a panel model that pools data from all countries and years, and include country i by year and country j by year fixed effects.

Sixth, we change one of the underlying data sources we used to construct diplomatic exchanges among countries. In the baseline specifications, we use dipex data from the COW project, which is available from 1817 every five years. Instead, to test the sensitivity of our findings, we use Moyer et al. (2022) and Moyer et al. (2021) annual diplomatic exchange data covering the post-1960s.

Seventh, we test the robustness of our results using an alternative proxy for domestic political stability. In particular, instead of using POLCOMP, we use the political constraint index (POLCON) of Henisz(2002), which is 65% correlated with POLCOMP.

Eight, we compute past accumulated defaults by considering the total number of defaults over 10 years instead of 20 years.

Finally, we execute sensitivity analyses on the econometric specification we employ. We acknowledge the potential influence of our chosen fixed effects on the results. In our baseline model, we employ decade-fixed effects, where each decade begins in a year ending in 0 and ends in a year ending in 9 (e.g., 1890–1899). Instead, we include biannual, 5-year-fixed effects, and alternatively, we construct decade-fixed effects starting in years ending in 1 (e.g., 1881–1890, 1891–1900) and in years ending in 9 (e.g., 1889–1898, 1899–1908). Additionally, we use two-way clustering at both the country and decade levels, as well as the continent and decade levels, instead of clustering at the country and year levels.

We report the results of these tests in Table 8. Overall, we conclude that the main results are qualitatively unaltered under the various robustness checks.

4 Conclusion

Geopolitical tensions in the Middle East, the Russia–Ukraine war, and the U.S.–China dispute underscore the importance of examining the link between geopolitics and economics. In this paper, we revisit the determinants of sovereign defaults, while paying particular attention to a novel dimension: a country's international political relations.

By aggregating various sources used widely in the political science literature, we first construct an international political relations index (*IPR*) for 152 countries since the 1880s. *IPR* measures a country's bilateral political relations with the rest of the world.

We show that geoeconomics factors, which encompass a country's international political stance, play a crucial role in shaping the likelihood of it facing a sovereign debt crisis. Specifically, we show that *IPR* has both in-sample and out-of-sample predictive power for the incidence of a sovereign debt crisis. Countries with tight political links with their peers are less likely to suffer from a sovereign debt crisis as they benefit from larger and sustained capital inflows. *IPR* is a valuable crisis early warning indicator, producing signals that significantly outperform the toss-a-coin benchmark. Furthermore, they have statistically similar accuracy to better-known predictors of debt crises, such as debt-to-GDP ratio, inflation, and domestic political stability.

Moreover, after a default, stronger international political relations contribute to a country's smoother recovery, characterized by a less drastic reduction in output and credit, alongside lower financing costs.

Our findings are novel and contribute to important policy debates. We have learned from history that sovereign debt defaults have dire consequences. For instance, many Latin American and Sub-Saharan African countries faced decade-long developmental setbacks after the 1980s systemic debt crisis: inflation soared, currencies depreciated, output plummeted, and poverty and inequality surged across the regions. We show that, although higher debt-to-GDP ratios and inflation are associated with a higher frequency of sovereign debt crises, strong international political ties reduce sovereign default risk. Furthermore, our results suggest that sound political links with the rest of the world enhance capital inflows into countries, likely thanks to reduced perceived risk. Pooled resources and coordinated policies across multiple countries can also create economies of scale, promote trade and competition, and allow the countries to access larger and more diversified markets (Brou and Ruta, 2011; Julio and Yook, 2012). In turn, increased economic prospects, investment, and consumption smoothing strengthen a country's shock absorption capacity and reduce the likelihood of default.

Appendix A: Data definitions and sources

- *IPR*: International political relations index, introduced in Section 2.1. It considers the bilateral militarized interstate dispute data collection of Palmer et al. (2022), the War Formal Alliance data of Singer and Small (1966), Small and Singer (1969), and Gibler (2009), diplomatic exchange data from the Correlates of War (COW) Project, and the state membership data of Wallace and Singer (1970) and Pevehouse et al. (2020).
- $D_{i,t}$: Sovereign debt crisis dummy. Equals 1 if country i has triggered a sovereign default in year t. Data come from Reinhart and Rogoff (2009a) and are updated by the Behavioral Finance and Financial Stability project at Harvard Business School. `https://www.hbs.edu/behavioral-finance-and-financial-sta` `data/Pages/global.aspx`
- $AD_{i,t-1 \text{ to } t-20}$: The total number of years in which country i faced a sovereign crisis over the previous 20 years. Calculated using Reinhart and Rogoff (2009a) data.
- Debt/GDP (%): A country's gross central government debt over GDP. Data are from the International Monetary Fund (IMF) database.
- ΔGDP (%): A country's annual change in the natural logarithm of GDP per capita. Data are from Maddison (2003), available at `http://www.ggdc.net/maddison/`.
- Log(GDP): A country's natural logarithm of GDP per capita. Data are from Maddison (2003), available at `http://www.ggdc.net/maddison/`.
- POLCOMP: A country's domestic political competition index. Higher values indicate better institutional quality and political stability. Data come from the Polity IV Project database.
- INF (%): The annual percentage change in the consumer price index. Data are from Global Financial Data.
- OPEN: Trade openness measure, calculated as exports plus imports as a share of GDP. Data from COW trade data.
- KOF series is the KOF Globalization Indexes. KOFPoGI and KOFFiGI are the political and financial globalization series, respectively. They are

based on Dreher (2006) and are maintained by the Swiss Economic Institute, available at https://kof.ethz.ch/en/data/kof-time-series-database.html.

- EPU: The economic policy uncertainty index of Baker et al. (2016). Available at https://www.policyuncertainty.com/
- GPR: The geopolitical risk index of Caldara and Iacoviello (2022). Available at https://www.policyuncertainty.com/.
- DLR: Duration of Low Risk of Danielsson et al. (2023) as a proxy for country-level financial risk appetite.
- POLCON: Political Constraint Index of Henisz (2002). Updated data are available from https://mgmt.wharton.upenn.edu/faculty/heniszpolcon/polcondataset/.
- EULER: Financial integration proxy based on the Euler equation that defines optimal intertemporal consumption using the methodology of Levine and Zervos (1998). Higher values indicate more financially integrated countries.
- Log(Inflows/GDP) (%): Total portfolio inflows (equity and debt) as a ratio of the country's GDP, taken from the IMF's Balance of Payments statistics (BPM5). The sample covers 55 countries from 1970 to 2012.
- Trend: The long-run slow-moving component of capital inflows, calculated by employing a one-sided Hodrick and Prescott (1997) filter, similar to Basel Committee on Banking Supervision (2010) and Danielsson et al. (2018).
- Cycle: The cyclical component of capital inflows, calculated as the deviations of capital flows from their trend.
- Log(Credit): The natural logarithm of credit to nonfinancial institutions. Data are from the Bank for International Settlements, available from 1953 onwards, for 40 countries.
- ΔSpread (bp): The annual changes in short-term sovereign bond yield spreads. Defined as the difference between a country's three-month government bond and the U.S. three-month bill yields from GFD, available for 78 countries from 1840 onwards.

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Table 1: *IPR* scores

Panel A reports countries with the highest ten international political relations (*IPR*) scores. The average scores across two time periods are reported: pre-WWI (1880–1938) and post-1950, corresponding to the end of WWII and the foundation of the North Atlantic Treaty Organization (NATO). Panel B presents average *IPR* scores for different subsamples. The *IPR* index is described in Section 2.1. We first calculate *IPR* for each subsample and then report the cross-sectional averages. The total number of countries for which we have data and use such data to calculate averages is also reported. We consider the full sample, and developed economies and emerging and developing economies based on the IMF classification. We also consider four different subperiods: the pre-modern era (1880–1913), the pre-WWII period (1880–1938), Bretton Woods (1946–1972), and the Great Moderation (1985–2006). Data sources: The Correlates of War (COW) Project.

Panel A

Country	Pre-WWII	Country	Post-WWII
Belgium	63	Canada	93
France	60	Netherlands	93
Netherlands	60	Belgium	92
United Kingdom	59	United Kingdom	88
Portugal	58	France	87
Spain	57	Portugal	86
Argentina	55	Luxembourg	83
Brazil	55	Argentina	82
Mexico	55	Mexico	82
Switzerland	55	Brazil	81

Panel B

	Full	Developed	Emerging	Pre-modern	Pre-WWII	BW	Great Mod.
Average	60	64	58	46	48	60	65
Nº countries	152	33	119	42	52	129	152

Table 2: Correlations between *IPR* and other political relations and risk measures
This table presents the Pearson correlation coefficients and corresponding p-values between the international political relations index (IPR) and the listed series specified in the first column. IPR is introduced in Section 2.1. KOFPoGI and KOFFiGI are the KOF political and financial globalization indexes, respectively, from Dreher (2006) and maintained by the Swiss Economic Institute. OPEN is the ratio of imports plus exports over GDP per capita. KAOPEN is the Chinn-Ito index measuring a country's degree of capital account openness, introduced in Chinn and Ito (2006). POLCOMP is a proxy for domestic political stability measuring the degree of institutionalization or regulation of political competition and the extent of government restrictions in a given country. GPR is the geopolitical risk index of Caldara and Iacoviello (2022). We first calculate country-level correlation coefficients and p-values and report the cross-sectional averages, except for GPR. GPR is only time-varying, so we calculate the correlations using the U.S. IPR. Data sources: The Swiss Economic Institute, the Polity IV project, the Correlates of War (COW) Project.

	NObs.	Pearson corr	p-value
KOFPoGI	6279	0.772	0.023
KOFFiGI	6234	0.645	0.047
OPEN	9973	0.671	0.011
KAOPEN	5697	0.422	0.094
POLCOMP	10378	0.293	0.077
GPR	115	-0.312	0.001

Table 3: Descriptive statistics

This table shows descriptive statistics of each variable indicated by the column headers for the period from 1880 to 2014. We present the average mean, median, and standard deviation for developed countries, emerging countries—whose definitions are based on the IMF classification—and the whole sample. The definitions and sources of variables are listed in Appendix A. Data sources: The Global Financial Data, the Behavioral Finance and Financial Stability project at Harvard Business School, the Polity IV Project, the International Monetary Fund (IMF), the Maddison Project, and the Correlates of War (COW) Project.

	IPR	$AD_{i,t-1 \text{ to } t-20}$	Debt/GDP (%)	ΔGDP (%)	Log(GDP)	POLCOMP	INF (%)	OPEN
	I	II	III	IV	V	VI	VII	VIII
Panel A: Emerging countries (N=1,747)								
Mean	68.42	4.25	44.74	2.18	8.63	6	16.89	4.22
Media	69	3	38.49	2.61	8.66	6	7.07	1.05
St. Dev.	11.78	4.92	32.07	4.32	0.70	3.21	34.40	7.81
Panel B: Developed countries (N=1,696)								
Mean	69.29	0.67	55.89	2.18	9.49	8.50	3.94	4.84
Median	71	0	46.92	2.21	9.57	10	2.59	0.82
St. Dev.	17.22	2.73	39.87	3.69	0.84	2.85	7.08	9.11
Panel C: Whole sample (N=3,443)								
Mean	68.85	2.49	50.23	2.18	9.05	7.23	10.51	4.53
Median	70	0	41.74	2.37	8.97	9	4.19	0.63
St. Dev.	14.72	4.38	36.55	4.02	0.89	3.28	25.83	8.48

Table 4: International political relations and sovereign debt crises
This table presents the results of regressions of sovereign debt crises on international political relations (*IPR*). The dependent variable is a dummy variable that equals 1 in the years of a sovereign crisis, 0 otherwise. *IPR* is introduced in Section 2.1. $IPR_{Developed,i,t-1}$ ($IPR_{Emerging,i,t-1}$) is *IPR* interacted with a dummy variable which takes the value 1 if country i is a developed (emerging) country based on the IMF classification. $IPR_{Pre-WWII,i,t-1}$ ($IPR_{Post-WWII,i,t-1}$) is *IPR* interacted with a dummy variable which takes the value 1 in the pre-1950 (post-1950) period. Definitions and sources of variables are listed in Appendix A. The sample covers 48 countries from 1890 to 2014. Columns I and II present the estimated coefficients of a panel-probit model introduced in equation (1). Columns III–VI present the estimated coefficients from a two-stage instrumental variable probit model with gravity-*IPR* as the instrument for *IPR*. All specifications include continent- and decade-fixed effects and with two-way clustered standard errors at the year and country level (in parentheses). ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively. Data sources: The Global Financial Data, the Behavioral Finance and Financial Stability project at Harvard Business School, the Polity IV Project, the International Monetary Fund (IMF), the Maddison Project, and the Correlates of War (COW) Project.

Dep. Var. $C_{i,t}$	panel-probit	panel-probit	2SLS IV			
			1st stage	2nd stage		
	I	II	III	IV	V	VI
$IPR_{\ i,t-1}$	-0.035***	-0.021**		-0.048**		
	(0.008)	(0.011)		(0.022)		
gravity-$IPR_{\ i,t-1}$			2.357***			
			(0.329)			
$IPR_{\ Emerging,i,t-1}$					-0.051**	
					(0.025)	
$IPR_{\ Developed,i,t-1}$					-0.059**	
					(0.024)	
$IPR_{\ Pre1950,i,t-1}$						-0.048*
						(0.027)
$IPR_{\ Post1950,i,t-1}$						-0.051**
						(0.026)
$AD_{i,t-1 \text{ to } t-20}$		0.130***	0.058	0.135***	0.129***	0.136***
		(0.020)	(0.101)	(0.021)	(0.021)	(0.021))
Debt/GDP$_{i,t-1}$		0.007**	-0.016**	0.008**	0.008**	0.008*
		(0.003)	(0.007)	(0.004)	(0.004)	(0.004)
ΔGDP$_{i,t-1}$		-0.036***	-0.033	-0.037***	-0.037**	-0.037**
		(0.013)	(0.031)	(0.013)	(0.013)	(0.015)
Log(GDP)$_{i,t-1}$		-0.477***	0.663	-0.320	-0.251	-0.304
		(0.182)	(1.300)	(0.196)	(0.208)	(0.205)
POLCOMP$_{i,t-1}$		-0.039	-0.078	-0.049*	-0.050	-0.050*
		(0.026)	(0.129)	(0.027)	(0.030)	(0.029)
INF$_{i,t-1}$		0.007***	-0.005	0.006***	0.006***	0.006**
		(0.002)	(0.005)	(0.002)	(0.002)	(0.003)
OPEN$_{i,t-1}$		-0.035	-0.077	-0.052	-0.050	-0.051
		(0.029)	(0.056)	(0.044)	(0.044)	(0.044)
F-test			51.23			
Observations	7,060	4,006	3,443	3,443	3,443	3,443
Pseudo R-squared	0.22	0.47				
Marginal effects						
$IPR_{i,t-1}$	-0.007***	-0.002**		-0.047**		
$IPR_{Emerging,i,t-1}$					-0.051**	
$IPR_{Developed,i,t-1}$					-0.059**	
$IPR_{Pre1950,i,t-1}$						-0.048*
$IPR_{Post1950,i,t-1}$						-0.051**

Table 5: Reliability of *IPR* as a debt crisis predictor
This table shows the results of four exercises conducted to assess the reliability of *IPR* as a debt crisis predictor. In models 1 to 4, we run probit regressions of debt crises, using *IPR*, the debt-to-GDP ratio, political stability, and inflation, respectively, as the primary explanatory variables (along with cross-section and time-fixed effects). Model 5 combines all four variables in a single specification. Panel A presents the percentage of the crises correctly predicted by *IPR*. Panel B reports the M-D index of McIntosh and Dorfman (1992): the sum of the ratio of correctly predicted crisis periods to actual crisis periods and the ratio of correctly predicted non-crisis periods to actual non-crisis periods. Panel C presents the area under the receiver operating characteristic (AUROC) curve for the same probit models. Finally, Panel D provides the out-of-sample pseudo-R^2 values for different training periods, calculated following the methodology of Estrella and Mishkin (1998). Data sources: The Global Financial Data, the Behavioral Finance and Financial Stability project at Harvard Business School, the Polity IV Project, the International Monetary Fund (IMF), and the Correlates of War (COW) Project.

Panel A

	Correctly predicted crisis (%)	Nº Obs.
Model 1: *IPR*	68	3,523
Model 2: Debt/GDP	67	3,523
Model 3: POLCOMP	67	3,523
Model 4: INF	64	3,523
Model 5: All	74	3,523

Panel B

	M-D index (%)	Nº Obs.
Model 1: *IPR*	152	3,523
Model 2: Debt/GDP	151	3,523
Model 3: POLCOMP	151	3,523
Model 4: INF	150	3,523
Model 5: All	158	3,523

Panel C

	AUROC	Std. Err.	Confidence Interval		Nº Obs.
Model 1: *IPR*	0.844	0.010	0.826	0.863	4,098
Model 2: Debt/GDP	0.848	0.010	0.828	0.868	4,098
Model 3: POLCOMP	0.854	0.010	0.835	0.872	4,098
Model 4: INF	0.859	0.009	0.842	0.876	4,098
Model 5: All	0.885	0.008	0.869	0.900	4,098

Panel D

	Out-of-sample pseudo R^2 (%)			
Ttrain	*IPR*	Debt/GDP	POLCOMP	INF
2000	26	27	17	15
1990	26	29	13	15
1980	18	29	7	10
1970	16	27	5	8

Table 6: Why does *IPR* reduce the probability of a sovereign crisis? Political relations and capital inflows

This table reports the estimated coefficients from second-stage instrumental variable (IV) regressions, as specified in equation (5), using gravity-*IPR* as the instrument. The dependent variables are listed in the column headers. Log(Inflows/GDP) is the total portfolio inflows (equity and debt) as a ratio of the country's GDP, Trend is the long-run slow-moving component of capital inflows, estimated via a one-sided Hodrick and Prescott (1997) filter, and Cycle is the deviation of capital inflows from their trend. *IPR* is the international political relations index introduced in Section 2.1. Definition and sources of variables are listed in Appendix A. All models include country- and year-fixed effects and are estimated with two-way clustered standard errors at the country and year level (in parentheses). ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively. Data sources: The Global Financial Data, the Behavioral Finance and Financial Stability project at Harvard Business School, the Polity IV Project, the International Monetary Fund (IMF) database, the Maddison Project, and the Correlates of War (COW) Project.

Dep. Var.:	Log(Inflows/GDP)	Trend	Cycle
	I	II	III
$IPR_{i,t-1}$	0.044**	0.030**	0.020
	(0.020)	(0.012)	(0.019)
$AD_{i,t-1 \text{ to } t-20}$	0.013	0.018	0.015
	(0.028)	(0.021)	(0.031)
Debt/GDP$_{i,t-1}$	-0.007***	-0.004	-0.004
	(0.002)	(0.002)	(0.002)
ΔGDP$_{i,t-1}$	0.039**	0.011	0.035**
	(0.016)	(0.010)	(0.015)
Log(GDP)$_{i,t-1}$	1.264***	1.227**	0.450*
	(0.451)	(0.539)	(0.262)
POLCOMP$_{i,t-1}$	0.023	0.031	-0.015
	(0.020)	(0.030)	(0.028)
INF$_{i,t-1}$	0.004***	0.004***	0.001
	(0.001)	(0.001)	(0.001)
OPEN$_{i,t-1}$	0.013***	0.010**	0.005***
	(0.004)	(0.005)	(0.001)
Observations	1,024	1,024	1,024

Table 7: Political relations and the recovery from a default episode

This table reports the estimated coefficients from second-stage instrumental variable (IV) regressions, as specified in equation (6), using gravity-*IPR* as the instrument. The dependent variables are listed in the column headers. *IPR* is the international political relations index introduced in Section 2.1. Definitions and sources of variables are listed in Appendix A. All models include country- and year-fixed effects. All models are estimated using robust standard errors clustered at the country and year level (in parentheses). ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively. Data sources: The Global Financial Data, the Behavioral Finance and Financial Stability project at Harvard Business School, the Polity IV Project, the International Monetary Fund (IMF), the Maddison Project, the Correlates of War (COW) Project, and the Bank for International Settlements.

Dep. Var.:	Log(Credit)	ΔGDP	ΔSpread
	I	II	III
$D_{i,t-1}$	-1.622***	-0.222**	10.049**
	(0.521)	(0.099)	(4.989)
$D_{i,t-1}$*$IPR_{\ i,t}$	0.023***	0.003**	-0.159**
	(0.008)	(0.001)	(0.066)
$IPR_{\ i,t-1}$	-0.003	-0.0005	-0.009
	(0.013)	(0.001)	(0.028)
$AD_{i,t-1 \text{ to } t-20}$	0.006	0.001	-0.096
	(0.011)	(0.001)	(0.058)
$\Delta \text{GDP}_{i,t-1}$	-0.001		0.229**
	(0.006)		(0.088)
$\text{Log(GDP)}_{i,t-1}$	1.806***	-0.002	1.448*
	(0.285)	(0.008)	(0.855)
$\text{Debt/GDP}_{i,t-1}$	-0.005***	-0.0003***	-0.004
	(0.001)	(0.0001)	(0.004)
$\text{POLCOMP}_{i,t-1}$	-0.056**	0.001	-0.151
	(0.021)	(0.001)	(0.136)
$\text{INF}_{i,t-1}$	-0.002	-0.0005***	0.014***
	(0.002)	(0.0001)	(0.002)
$\text{OPEN}_{i,t-1}$	-0.013**	0.0001	-0.007
	(0.006)	(0.0005)	(0.016)
Observations	1,380	3,681	1,529

Table 8: Robustness

This table presents the robustness tests. The dependent variable is a dummy variable that equals 1 in the years of a sovereign debt crisis. In column I, we include EULER as a proxy for financial integration, following Levine and Zervos (1998). In column II, we include a dummy variable indicating banking crisis episodes as a control variable. In column III, we control for the EPU, GPR, and DLR of Baker et al. (2016), Caldara and Iacoviello (2022), and Danielsson et al. (2023), respectively. In column IV, we exclude country-years where the International Monetary Fund (IMF) provided financial support. In column V, we estimate gravity-*IPR* by running the model in (2) as a pooled panel model with country × year fixed effects. In column VI, we obtain the *IPR* index using diplomatic exchange data from Moyer et al. (2022) and Moyer et al. (2021). In column VII, we use the POLCON variable of Henisz (2002) as an alternative measure of domestic political stability. In column VIII, we replace the 20-year accumulated defaults with the total defaults during the last 10 years. In columns IX and X, we replace the baseline decade-fixed effects with biannual- and five-year-fixed effects, respectively. In columns XI and XII, we replace the baseline decade-fixed effects, where each decade begins in a year ending in 0, with decade-fixed effects starting in years ending in 1 (e.g., 1881–1890, 1891–1900) and in years ending in 9 (e.g., 1889–1898, 1899–1908). Finally, in columns XIII and XIV, we estimate the model using two-way standard errors clustered at the continent and decade levels, respectively. All models include the same set of controls we include in our baseline setting, but for the sake of brevity, they are not reported. Two-way clustered standard errors at the country and year level are reported in parentheses, except for in columns XIII and XIV. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively. Data sources: The Global Financial Data, the Behavioral Finance and Financial Stability project at Harvard Business School, the Polity IV Project, the International Monetary Fund (IMF), the Maddison Project, and the Correlates of War (COW) Project.

	Financial integration I	Banking crises II	Global risk III	IMF IV	Gravity V	DDR VI	POLCON VII	Accumulated defaults VIII
$IPR_{\ i,t-1}$	-0.068***	-0.048**	-0.053**	-0.067***	-0.092***	-0.116***	-0.055**	-0.063***
	(0.025)	(0.022)	(0.024)	(0.021)	(0.014)	(0.059)	(0.022)	(0.019)
$\text{EULER}_{i,t-1}$	0.338							
	(0.297)							
$C_{i,t}^{\text{Banking}}$		0.072						
		(0.186)						
$\text{EPU}_{i,t-1}$			0.004*					
			(0.003)					
$\text{GPR}_{i,t-1}$			0.005*					
			(0.003)					
$\text{DLR}_{i,t-1}$			-1.701***					
			(0.651)					
Obs.	2,238	3,394	2,132	2,607	3,443	3,443	3,176	3,443

	Fixed effects & clustering					
	Biannual FE IX	5-year FE X	Decade-1 XI	Decade-9 XII	cluster continent XIII	cluster decade XIV
$IPR_{\ i,t-1}$	-0.047**	-0.049**	-0.055***	-0.046**	-0.048**	-0.048**
	(0.023)	(0.021)	0.020	(0.022)	(0.022)	(0.022)
Obs.	3,308	3,385	3,536	3,455	3,443	3,443