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Toxic Assets? How Credit Rating Agencies Assess Chinese Debt Exposure in Developing Countries

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Abstract

The rise of China as a major official creditor has transformed the external financing landscape of developing countries. How do credit rating agencies (CRAs) respond as sovereign borrowers become increasingly reliant on Chinese lending? This article examines the relationship between creditor composition and sovereign ratings issued by Moody's, Standard & Poor's (S&P), and Fitch. I argue that greater dependence on Chinese creditors can heighten concerns about repayment capacity and crisis resolution. As Chinese claims become more dominant, their lending terms, limited transparency, and restructuring arrangements become more consequential for borrowers' financial vulnerabilities and access to relief. Home bias among CRAs embedded in Western financial markets may further amplify these concerns. Using a panel of 65 developing countries between 2000 and 2023, I find that official debt portfolios more heavily tilted toward China are associated with lower ratings from Moody's and S&P in the baseline models, while the corresponding relationship for Fitch is not statistically significant. These findings suggest that creditor dependence is relevant to formal assessments of sovereign risk, linking China's growing role in official finance to the institutions through which international financial markets evaluate developing countries.

Keywords: Sovereign Credit Ratings; Sovereign Debt; Chinese Lending; Creditor Composition

1 Introduction

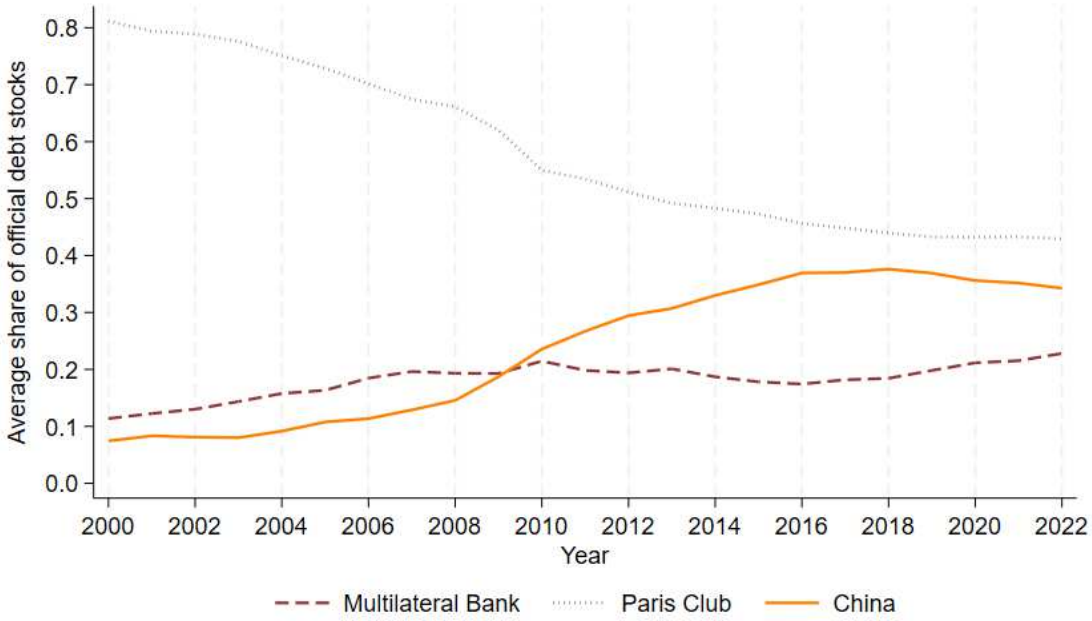
International financial markets rely heavily on assessments of sovereign creditworthiness when allocating capital across borrowing governments. Credit rating agencies (CRAs) occupy a central position in this process because the ratings issued by Moody's, Standard & Poor's (S&P), and Fitch condense complex information about governments' repayment capacity and willingness into widely used signals of sovereign risk (Hill, Brooks and Faff 2010; Tennant and Tracey 2016). These ratings are closely watched by investors, banks, and other financial intermediaries and can influence the interest rates governments face, the range of investors willing to hold their debt, and their broader access to international capital markets. In this sense, CRAs function as important gatekeepers in sovereign finance, shaping how borrowing governments are perceived and priced within global financial markets (White 2010). The role of CRAs is particularly important in developing countries, where greater information asymmetries and weaker transparency can make sovereign creditworthiness more difficult for international investors to assess (Kaminsky and Schmukler 2002; Tennant, Tracey and King 2020). In this context, an increasingly important question is not only how much governments owe, but also to whom they owe it. The composition of sovereign debt can matter because obligations of similar size may carry different implications depending on the creditors involved and the institutional arrangements under which financing is provided. Creditors differ in their lending terms, transparency, willingness to provide additional liquidity, and approaches to debt restructuring (Bunte 2019; Mosley and Rosendorff 2023). These differences can shape both the pressures governments face in servicing their obligations and the options available when financial distress emerges. Creditor identity may therefore influence not only how sovereign debt is managed, but also how external financial actors assess the risks associated with it.

The rise of China as a major official creditor has brought this issue to the forefront of sovereign finance. Over the past two decades, Chinese lending has provided developing countries with an important alternative to Paris Club governments and multilateral development

banks (Cormier 2023; Horn, Reinhart and Trebesch 2021). This expansion has changed the relative importance of creditors within borrowers' external debt portfolios. Figure 1 illustrates this transformation over time. In the early 2000s, China accounted for only a small share of borrowers' official debt, while Paris Club creditors remained the predominant source of bilateral official finance. Over time, however, China's share increased substantially as the relative importance of Paris Club lending declined, making Chinese credit an increasingly prominent component of developing countries' external debt portfolios. This shift has also spread geographically. As Figure 2 shows, substantial reliance on Chinese credit was concentrated in only a few countries during the 2000s, but became considerably more widespread across sub-Saharan Africa and parts of Asia since the 2010s. Thus, China's emergence as a source of finance can affect both the resources available to governments and how their creditworthiness is assessed in international financial markets.

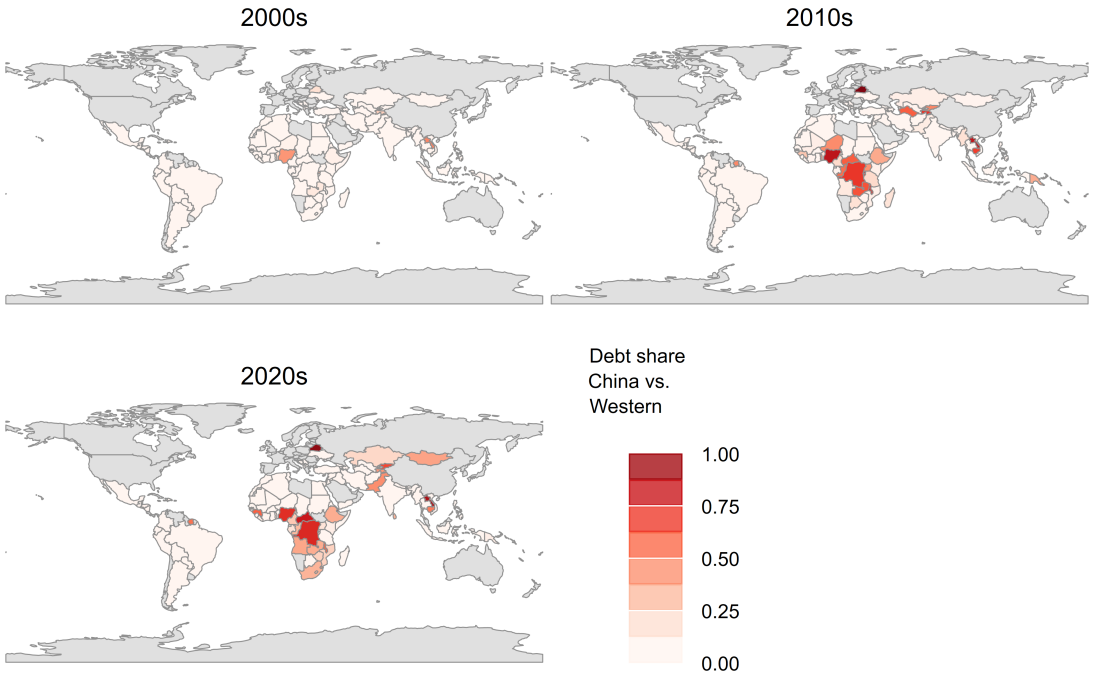
Based on this situation, I ask: *When China becomes a dominant official creditor, do major CRAs account for borrowers' reliance on Chinese creditors in their assessments of sovereign creditworthiness?* To investigate this question, I examine whether China's relative position within a borrower's official creditor portfolio is associated with the sovereign ratings assigned to that borrower. Specifically, I focus on the balance between claims held by Chinese creditors and those held by traditional Western official lenders—Paris Club members and major multilateral development banks. This relative position captures a dimension of creditor dependence that the amount of Chinese lending alone cannot fully describe. By examining sovereign ratings, I investigate how a shift in the structure of official finance is reflected in the formal credit assessments used in capital markets.

Figure 1: Annual Trend of Borrowers' Debt Share



Notes: This data covers 131 low- and middle-income countries in the World Bank's International Debt Statistics dataset (IDS).

Figure 2: Geographic Distribution of Borrowers' Debt Share



Notes: Western debt refers to debt owed to Paris Club creditors and major multilateral development banks. Gray denotes advanced economies and countries with missing data. Data are from the World Bank's International Debt Statistics (IDS).

I argue that a debt portfolio more heavily tilted toward China can give rise to concerns about repayment capacity and the management of financial distress. Chinese lending can finance productive investment and ease liquidity constraints, but its benefits must be assessed alongside the obligations it creates. Less concessional terms can increase debt-service pressures, limited transparency can complicate the evaluation of outstanding claims, and uncertain restructuring arrangements can make crisis resolution more difficult (Gelpern et al. 2023; Horn, Reinhart and Trebesch 2021; Ferry and Zeitz 2024). As China becomes more dominant relative to Western official creditors, these characteristics govern a larger share of the relevant obligations, while Chinese decisions about refinancing and relief become more consequential for the borrower's liquidity and fiscal position. CRAs may consequently assign lower ratings to governments whose official debt portfolios are more heavily oriented toward China. For agencies embedded in Western financial markets, home bias may further reinforce these concerns by encouraging less favorable interpretations of dependence on Chinese creditors (Fuchs and Gehring 2017; Yalta and Yalta 2018). The financial characteristics of the debt and the way agencies interpret creditor dependence may therefore jointly shape credit assessments.

To test this argument, I analyze sovereign credit ratings issued by Moody's, S&P, and Fitch for 65 developing countries between 2000 and 2023. Drawing on the debt balance measure developed by Steinwand (2026), I operationalize a country's official debt portfolio is tilted toward China rather than Paris Club creditors and major multilateral development banks, with the expectation that more China-oriented debt portfolios receive lower sovereign credit ratings based on the debt balance measure developed by Steinwand (2026). The results provide substantial support for my argument, with a negative association emerging for Moody's and S&P but not for Fitch. The findings remain robust across alternative estimation strategies and different measures and data sources for Chinese debt.

This study extends several bodies of literature by bridging scholarship on CRAs and Chinese debt. First, this study contributes to research on bias in sovereign credit ratings.

Existing work shows that CRAs may evaluate countries more favorably when they are economically, politically, or culturally closer to the agencies' home countries (Fuchs and Gehring 2017; Yalta and Yalta 2018). I extend this literature by identifying creditor composition as an additional channel through which institutional and geopolitical considerations may enter credit assessments. My findings suggest that ratings depend not only on how much a country owes but also on whether its obligations are held primarily by Chinese or Western creditors. Second, the study contributes to scholarship on Chinese sovereign lending. Previous research has concentrated on debt distress, contractual arrangements, and borrowers' choices among competing sources of finance (Cormier 2023; Gelpern et al. 2023; Horn, Reinhart and Trebesch 2021; Mosley and Rosendorff 2023; Shea 2026). I show that the consequences of Chinese lending also depend on how it is perceived by Western financial actors. Even when Chinese debt does not directly produce default, CRAs may interpret greater exposure as signaling opacity, restructuring uncertainty, or political dependence, thereby affecting borrowers' access to global capital markets. Finally, these findings contribute to broader debates about geopolitics and the fragmentation of international finance. Because CRAs are private actors capable of shaping capital flows through Western financial markets, their assessments can translate geopolitical concerns into higher borrowing costs and reduced access to capital. If greater reliance on Chinese debt leads to less favorable ratings, Western financing may become more costly, further increasing borrowers' dependence on China and unintentionally reinforcing the separation of Chinese- and Western-centered financial networks.

2 Literature: Determinants of Sovereign Bond Ratings

Since the 1990s, CRAs have become increasingly influential actors in global financial markets. Sovereign bond ratings issued by Moody's, S&P, and Fitch serve as widely used indicators of governments' creditworthiness and shape investors' assessments of sovereign risk (Hanusch and Vaaler 2013; White 2010). Their central function is to collect and summarize

complex information about a country's economic, financial, and political conditions into an easily interpretable signal. In doing so, sovereign ratings reduce information costs for investors who may otherwise find it difficult to evaluate the repayment capacity and default risk of foreign governments (Afonso, Furceri and Gomes 2012). Specifically, bond ratings provide information not only about current fiscal and external conditions, but also about the likelihood that a government may fail to meet its debt obligations, experience financial distress, or require debt restructuring. Because these assessments influence borrowing costs, access to international capital markets, and investment decisions, changes in sovereign ratings can have important consequences for both debtor governments and investors (Albuquerque 2003; Ismailescu and Kazemi 2010; Kaminsky and Schmukler 2002; Kim and Wu 2011; Treepongkaruna and Wu 2012). The growing importance of CRAs has, in turn, generated a substantial literature examining how they assess sovereign risk.[1]

Studies of sovereign credit rating generally emphasize two central considerations: a government's *ability* to repay its debt and its *willingness* to honor its obligations. A government's *ability* to repay is primarily associated with its underlying economic capacity. In evaluating this capacity, major CRAs consider similar economic and financial factors, including income and economic structure, fiscal performance, public debt, monetary flexibility, external liquidity, and contingent liabilities. Empirical research similarly finds that sovereign ratings respond strongly to macroeconomic fundamentals. Higher GDP per capita and stronger economic growth generally signal a broader tax base and greater capacity to generate the resources necessary for repayment, leading to more favorable ratings (Afonso 2003; Cantor and Packer 1996). External sector conditions also matter (Biglaiser and Derouen 2007; Mora 2006). Reserve holdings can buffer governments against foreign-currency shortages and ease external-financing pressures. By contrast, persistent current account deficits, high external debt, and reliance on short-term financing increase vulnerability to

[1]Although the CRAs publish broad descriptions of their sovereign rating methodologies, the precise weights attached to individual indicators remain proprietary and are not fully observable to outside researchers (Mosley 2003).

balance-of-payments crises. Inflation may signal weak monetary credibility or raise concerns that governments could erode the real value of domestic currency obligations. At the same time, greater integration into the global economy can strengthen a country's repayment capacity. Trade integration and foreign investment can increase export earnings and support long-term growth. Fiscal and monetary institutions can reinforce these economic fundamentals by making policy commitments more credible and limiting opportunistic responses to financial pressure (Bodea and Hicks 2018; Copelovitch, Gandrud and Hallerberg 2018).

Another strand of literature emphasizes governments' *willingness* to repay. Even economically capable governments may choose to default when repayment imposes high domestic political costs, making political institutions and interests central to sovereign-risk assessment. Regime type has received particular attention. The democratic advantage argument holds that electoral accountability and citizens' ability to punish leaders make democratic governments more likely to honor their financial commitments (Beaulieu, Cox and Saiegh 2012; Schultz and Weingast 2003). This advantage, however, depends not merely on the presence of elections but also on the institutional constraints that support credible policy commitments. Executive constraints, checks and balances, judicial independence, and the rule of law can limit abrupt policy reversals and strengthen the credibility of sovereign debt contracts (Biglaiser and Staats 2012; Ballard-Rosa, Mosley and Wellhausen 2021; Cox and Saiegh 2018). Conversely, democratic backsliding that weakens these institutions may undermine policy credibility and result in lower sovereign credit ratings (Yoo 2025). Governments' ties to external institutions can also bolster policy credibility. Participation in preferential trade agreements, EU membership, and relationships with major international banks may constrain opportunistic policy changes, increase external monitoring, and signal a government's commitment to stable and market-oriented economic policies, thereby improving its perceived creditworthiness (Gray 2009; Grittersová 2020; Tomashevskiy and Yuichi Kono 2015). Other political factors, however, may increase uncertainty. Partisanship, for instance, may also shape sovereign risk when market participants expect left-leaning governments to pri-

oritize redistribution, public spending, or employment over fiscal adjustment and repayment to creditors (Barta and Johnston 2018; Cho 2017).

Sovereign ratings, however, may not be determined exclusively by objective economic and political risks. A growing body of research suggests that rating decisions also reflect the geopolitical orientation and institutional position of CRAs. In particular, Fuchs and Gehring (2017) find evidence of a *home bias*: even after controlling for conventional indicators of credit risk, CRAs tend to assign more favorable ratings to countries that are economically, politically, or culturally closer to the agency's home country. Other studies also show regional variation and systematic disagreements across agencies, suggesting that agencies do not always interpret the same economic fundamentals uniformly across institutional and geopolitical contexts (Barta and Makszin 2021; Hill, Brooks and Faff 2010; Yalta and Yalta 2018). The same logic may extend to countries' relationships with China. Western CRAs may view Chinese financial ties not simply as another source of external financing but as part of a broader geopolitical relationship. When countries are closely linked to China, particularly through initiatives such as the Belt and Road Initiative (BRI), CRAs may regard that exposure as an additional source of risk and assign lower sovereign ratings (Ioannou, Keenan and Wójcik 2026). These dynamics do not imply that sovereign ratings are detached from credit fundamentals. Rather, they suggest that CRAs may assess the risk associated with a given debt burden partly in light of the political meaning attached to it.

3 Theory: How Does Chinese Debt Affect Sovereign Bond Ratings?

CRAs assess sovereign credit rating in light of the obligations governments must meet and the resources and institutional arrangements available to manage them. Based on this, I focus on the composition of sovereign debt matters alongside its overall size. Creditors differ in their lending terms, disclosure practices, policy requirements, and approaches to

debt restructuring, all of which can affect a government's ability to meet its financial obligations (Bunte 2019; Mosley and Rosendorff 2023). Countries with similar debt burdens may therefore face different repayment pressures and prospects for resolving financial distress depending on who holds their debt. These differences have become increasingly important as China has emerged as a major official creditor to developing countries, challenging the traditional dominance of Paris Club governments and multilateral development banks (Cormier 2023; Horn, Reinhart and Trebesch 2021). As the share of debt owed to China increases relative to traditional Western official creditors, Chinese lending arrangements and creditor decisions become more consequential for borrowers' financial positions and their ability to manage debt obligations. Thus, I argue that CRAs assess sovereign debt not only according to how much a government owes, but also according to whom it owes.

Chinese lending can strengthen sovereign creditworthiness by financing productive investment and providing liquidity to governments with limited access to conventional external finance. Such financing can ease short-term funding constraints and, when invested productively, improve borrowers' longer-term repayment capacity (Dreher et al. 2021; Horn et al. 2023; Shea 2026). Such potential benefits, however, not translate into higher sovereign credit ratings. The resulting obligations can increase debt-service burdens before investment returns become available and expose borrowers to future financial distress (Horn, Reinhart and Trebesch 2021, 2025). Because sovereign ratings emphasize governments' ability to meet payments under adverse conditions, CRAs may give greater weight to these vulnerabilities than to uncertain, longer-term growth benefits. I argue that three characteristics of Chinese debt become particularly relevant to this assessment as China assumes a more dominant position in the official creditor portfolio: less concessional lending terms, limited transparency, and uncertainty surrounding debt restructuring.

First, Chinese lending often carries less concessional terms than financing from traditional Western official creditors. Chinese policy banks such as China Development Bank (CDB) and Export-Import Bank of China (CEXIM) frequently extend loans at market-

related interest rates and with shorter maturities than highly concessional financing from multilateral development banks or Paris Club bilateral creditors (Horn, Reinhart and Trebesch 2021). Chinese state banks also charge risk premia that reflect the relatively high credit risks of many recipient countries (Horn, Reinhart and Trebesch 2025). Although these terms may be more favorable than borrowing in private bond markets, they can generate larger or earlier payments than concessional official finance. For a government with a given debt stock, higher interest costs absorb more revenue, while shorter maturities bring forward principal repayments and increase the amount that must be repaid or refinanced over a given period.

These payment schedules matter for ratings because a government's capacity to meet obligations depends on when resources become available. Infrastructure investment generate returns only after loans begin to require repayment, leaving the government to cover the intervening payments from revenues, reserves, or new borrowing. If growth or export receipts fall short of expectations, those payments can reduce the resources available to absorb further shocks. As Chinese claims become dominant, the associated repayment terms shape a larger part of the official debt-service profile. CRAs may consequently anticipate greater pressure on fiscal and foreign exchange resources and a greater need for successful refinancing.

Second, limited transparency surrounding Chinese debt can make both the size and distribution of repayment risks harder to evaluate. Chinese sovereign loan contracts often include confidentiality provisions (Gelpern et al. 2023), and some Chinese-financed obligations are not fully captured by conventional public-debt statistics. Horn, Reinhart and Trebesch (2022), for example, identify episodes of distress involving Chinese creditors that were absent from standard sovereign default databases, while Brown (2025) documents under-reporting of Chinese debt by African borrowers. These information gaps can concern more than the aggregate amount owed. Undisclosed repayment schedules make it difficult to identify concentrations of payments, while incomplete information about collateral and guarantees can obscure which revenues are already committed or which obligations may ultimately fall on the government.

For CRAs, such uncertainty can weaken confidence that reported fiscal resources and financing plans provide an adequate picture of repayment capacity. A government may appear able to service its recorded obligations while facing additional claims on the same revenue or foreign-exchange resources. Even when undisclosed liabilities do not materialize, incomplete information makes it harder to judge the government's resilience to an adverse shock. As Chinese claims become more dominant, uncertainty surrounding their terms can affect a more consequential part of the relevant official debt portfolio. CRAs may then adopt more cautious assessments of the resources available to service other claims and the likelihood that additional financing will be needed. The same opacity can make it difficult to determine how extensively the government would need to rely on Chinese refinancing or other support if repayment pressures intensified.

Third, Chinese lending arrangements can make the timing and outcome of debt restructuring less predictable. Chinese claims are distributed across policy banks, state-owned commercial banks, and other state-connected entities with different mandates and commercial interests, complicating the formation of a unified creditor position (Brautigam 2022; Hameiri and Jones 2024). China has also tended to negotiate relief bilaterally and on a case-by-case basis, often using maturity extensions, refinancing, or new lending rather than standardized reductions in principal (Chen 2023). Contractual provisions concerning confidentiality and collateral can further complicate information sharing and the allocation of losses (Gelpern et al. 2023). A borrower may consequently need to reconcile different creditors' assessments of the relief required and the terms on which they are willing to participate.

The importance of these coordination problems depends on the weight of Chinese claims. When those claims dominate the relevant official debt portfolio, relief from other official creditors alone may be insufficient to close the financing gap. Agreement with Chinese institutions then becomes more consequential for a viable restructuring, even if the institutions themselves have different preferences. Extensions and refinancing may ease immediate liquidity pressures, but their adequacy depends on whether the revised payment schedule is

consistent with the borrower's longer-term resources. Protracted negotiations can leave the government uncertain about upcoming payments and delay a credible financing plan. CRAs may interpret that uncertainty as increasing the risk of missed payments and prolonged financial distress.

These difficulties can also affect cooperation with the IMF and other official creditors. Ferry and Zeitz (2024) find that debt-distressed countries with larger outstanding debts to China experience more protracted IMF negotiations. Uncertainty about the treatment of Chinese claims and the distribution of relief can complicate financing assurances, while access to Chinese credit can provide borrowers with an outside option in negotiations (Kern and Reinsberg 2022; Cormier 2023; Zeitz 2024). Such alternatives can strengthen bargaining power, but they may also delay agreement when the borrower and its creditors expect different sources to meet the financing shortfall. As Chinese claims become more dominant, a coordinated resolution may depend more heavily on securing Chinese participation. For CRAs, this makes the availability of timely crisis financing and an orderly adjustment path less certain. These risks can enter ratings before a crisis occurs through assessments of how the government would respond if repayment pressures intensified.

These financial vulnerabilities associated with Chinese debt are likely to become more consequential as borrowers grow increasingly dependent on Chinese creditors. When Chinese claims account for only a limited share of a government's official debt, concerns about repayment terms, transparency, or restructuring affect only a relatively small portion of its external obligations. As China becomes a dominant creditor, however, a larger share of the debt portfolio becomes exposed to these same vulnerabilities. At the same time, managing financial stress becomes more dependent on Chinese creditors' willingness to refinance outstanding loans, extend maturities, or participate in debt relief. Borrowers with fewer alternative sources of official finance may therefore face greater liquidity and fiscal pressures if such support is delayed or unavailable. Greater reliance on Chinese debt can thus magnify sovereign risk both by increasing exposure to the distinctive characteristics of Chinese

lending and by making the borrower more dependent on China's cooperation in managing those risks.

These concerns can also be amplified by the institutional position of the major CRAs. Moody's, S&P, and Fitch are deeply embedded in Western financial markets, where their assessments reflect a degree of home bias (White 2010). Existing studies show that agencies tend to evaluate sovereign borrowers more favorably when they are economically or politically closer to the agencies' home countries (Fuchs and Gehring 2017; Yalta and Yalta 2018). This pattern suggests that greater reliance on Chinese creditors, relative to traditional Western official lenders, may be viewed less favorably, particularly when it signals a shift away from financial relationships and political arrangements more familiar to the agencies. CRAs may consequently give greater weight to vulnerabilities associated with Chinese debt and to uncertainty about the availability of support to manage them. Home bias thus heighten the salience of risks arising from the financial characteristics of Chinese obligations, reinforcing rather than replacing concerns about borrowers' underlying capacity to repay.

CRAs' own reports provide anecdotal evidence of these financial concerns and the additional relevance of geopolitics. Moody's reports on the BRI acknowledged the potential for infrastructure investment and growth but emphasized rising debt, weak institutional capacity, and implementation risks (Moody's 2017). Its assessment of Chinese lending to sub-Saharan Africa similarly warned of heavier debt burdens, weaker affordability, and greater external vulnerabilities, highlighting Angola, the Republic of Congo, and Zambia as countries with substantial Chinese exposure (Moody's 2018). Moody's also discussed the potential for expanding economic ties to draw borrowers into China's sphere of influence (Moody's 2019). Together, these assessments illustrate how geopolitical considerations can accompany concerns about debt affordability and external vulnerability.

S&P's country assessments likewise connect Chinese-financed projects to fiscal and external risks. Its 2011 assessment of Ghana warned that a bilateral Chinese loan could contribute to a further increase in public debt (S&P 2011). Reports on Montenegro highlighted

the fiscal implications of the Bar–Boljare highway, financed largely by China Exim Bank, and the associated increase in government debt (S&P 2014, 2017). Its assessment of Pakistan recognized the economic benefits of the China–Pakistan Economic Corridor while warning that project-related financing pressures could widen the external deficit (S&P 2020). These examples illustrate attention to the financial risks associated with Chinese lending, although they do not by themselves establish an effect of creditor dominance or geopolitical dependence.

Taken together, my argument links a growing tilt toward China in official creditor portfolios to less favorable sovereign credit assessments. As Chinese claims become dominant relative to those of traditional Western official creditors, their lending terms, transparency, and restructuring arrangements may become increasingly consequential for repayment capacity and crisis resolution. These financial and institutional risks form the primary channel through which creditor composition may affect ratings. Greater geopolitical dependence on Beijing constitutes a secondary channel that can reinforce how those risks are interpreted. I therefore derive the following hypothesis: *As China becomes more dominant relative to traditional Western official creditors in a country's official debt portfolio, that country is more likely to receive lower sovereign credit ratings.*

4 Research Design

4.1 Sample

To test the proposed hypotheses, I construct a country-year panel dataset including 65 developing countries between 2000 and 2023. Following the literature on sovereign credit ratings, I limit the samples to developing countries because ratings for advanced economies tend to be relatively stable, whereas those for developing countries exhibit greater temporal and cross-national variation and are more responsive to changes in economic, political, and financial conditions (Block and Vaaler 2004; Cantor and Packer 1996; Grittersová 2020). I iden-

tify developing countries using the World Bank's income-based classification. Specifically, the sample includes low-income, lower-middle-income, and upper-middle-income economies, while excluding economies classified as high-income. The countries included in the analysis are reported in Table A1 in the Appendix.

The temporal domain begins in 2000, which is an important juncture in both the development of the global sovereign rating market and China's emergence as a major international creditor. During the 1990s, developing countries increasingly relied on international bond markets to finance public spending and development, making the sovereign ratings issued by Moody's, S&P, and Fitch increasingly important signals of creditworthiness to international investors (Archer, Biglaiser and DeRouen 2007; Biglaiser, Hicks and Huggins 2008; Biglaiser and Staats 2012). Before the late 1990s, however, sovereign rating coverage remained limited to a relatively small group of financially integrated countries. At the end of the 1970s, only 14 countries had received a sovereign rating from at least one of the three major agencies. By 2000, that number had risen to 99 and subsequently reached 148 by 2020. The turn of the century also marked the onset of China's transformation from a relatively minor source of external finance into one of the most important official creditors to developing countries. Chinese overseas lending expanded rapidly in the early 2000s following the adoption of the "Going Global" strategy and the growing international activities of Chinese policy banks and state-owned financial institutions (Dreher et al. 2021; Horn, Reinhart and Trebesch 2025). Beginning the analysis in 2000 therefore makes it possible to examine sovereign ratings after the market had become sufficiently mature and geographically extensive, capture the rise of Chinese official finance, and reduce sample-selection concerns arising from the limited rating coverage of earlier decades.

4.2 Dependent Variables

The dependent variables are the *annual sovereign credit ratings* assigned by Moody's, S&P's, and Fitch. These three agencies—collectively known as the "Big Three"—account for

more than 90 percent of the global credit rating market. I collected the ratings from the official websites of Moody's, S&P, and Fitch. Following previous studies (Afonso 2003; Block and Vaaler 2004; Vaaler, Schrage and Block 2006; Hansen 2023), I convert each agency's alphanumeric ratings to a 17-point ordinal scale ranging from 0 to 16. Higher scores indicate greater sovereign creditworthiness. A score of 16 corresponds to the highest rating category—AAA for S&P and Fitch and Aaa for Moody's—whereas a score of 0 encompasses ratings below CCC+ for S&P and Fitch or Caa1 for Moody's.[2] This standardized scale facilitates systematic comparisons across agencies, countries, and years while preserving the ordering of the original rating categories. When an agency changes a country's rating during a given year, I record the rating that was in effect for the greatest number of months.

4.3 Independent Variable

Our main independent variable is the *debt balance tilt toward China*, which captures the composition of a country's official external debt portfolio. Specifically, it measures the extent to which a country is indebted to Chinese creditors relative to established Western official creditors. Following Steinwand (2026), I construct this variable using creditor-specific data on public and publicly guaranteed external debt from the World Bank's *International Debt Statistics* (IDS). I compare outstanding debt owed to China with debt owed to Western official creditors, defined as Paris Club members and major multilateral development banks. The resulting measure captures the extent to which a country's external public debt portfolio is oriented toward China rather than toward the Western-led official financing system.

The measure is constructed in two steps (Steinwand 2026). First, I calculate China's share of the combined debt owed to Chinese and Western official creditors:

$$\text{China Debt Share}_{it} = \frac{\text{Debt}_{\text{China},it}}{\text{Debt}_{\text{China},it} + \text{Debt}_{\text{West},it}}.$$

[2] Table A2 in the Appendix provides the complete correspondence between the agencies' original rating categories and the standardized ordinal scores used in the analysis.

I then transform this share into a measure of the extent to which a country's debt portfolio is tilted toward China. Because my theoretical argument focuses on whether Chinese claims exceed those held by Western official creditors, I use equal exposure to the two creditor groups as a neutral reference point. Thus, I set this balance point at 50 percent, or $q = 0.5$.[3] The measure is defined as follows:

$$\text{Debt Balance Tilt}_{it} = \begin{cases} 0, & \text{if China Debt Share}_{it} < q, \\ \dfrac{\text{China Debt Share}_{it} - q}{1 - q}, & \text{if China Debt Share}_{it} \geq q. \end{cases}$$

This transformation rescales observations at or above the balance point to range from 0 to 1. The variable takes a value of zero when China accounts for no more than half of the combined debt owed to Chinese and Western official creditors. A value of zero therefore does not necessarily indicate that a country has no debt to China; instead, it means that Chinese claims do not exceed those held by Western official creditors. Once China's share rises above 50 percent, the variable increases linearly with the degree to which the country's official debt portfolio is tilted toward China. For example, the measure takes a value of 0.5 when China holds 75 percent of the relevant debt stock and reaches its maximum value of one when the entire debt stock included in the calculation is owed to China.

This construction separates the effect of creditor composition from that of the absolute amount of Chinese lending. Two countries may owe the same amount to China but differ substantially in their relative dependence on Chinese finance. A country that owes considerable debt to both China and Western official creditors has a more balanced creditor portfolio than a country with the same amount of Chinese debt but few corresponding obligations to Western creditors. The *debt balance tilt toward China* therefore captures whether China oc-

[3]The 50-percent threshold provides a empirically intuitive reference point, but the precise point at which the composition of creditors may become consequential for sovereign ratings cannot be determined ex ante. I therefore assess the robustness of the results using alternative balance points as well as the untransformed share of debt owed to China.

cupies a dominant position in a country's official creditor portfolio, which corresponds more closely to theoretical argument than either the raw amount of Chinese debt or a conventional measure of overall indebtedness, such as the debt-to-GDP ratio.

4.4 Control Variables

I also include two sets of control variables that previous studies consistently identifies as determinants of sovereign credit ratings. The first set captures countries' macroeconomic and external financial conditions. CRAs are more likely to assign favorable ratings to countries with stronger economic performance, greater repayment capacity, and sufficient resources to withstand domestic and external shocks (Afonso, Furceri and Gomes 2012; Cantor and Packer 1996; Jaramillo 2010). I therefore control for *GDP per capita (log)*, which captures the country's overall level of economic development and fiscal capacity, and *annual GDP growth*, which reflects changes in its economic performance. I also include *trade (% GDP)* and *foreign direct investment (FDI) inflows (% GDP)*, which capture the degree of international economic integration and may shape growth prospects, access to foreign currency, and vulnerability to external shocks. *Financial reserves (% total external debt)* are included to capture the government's ability to meet foreign-currency obligations and absorb balance-of-payments pressures, while the *current account balance (% GDP)* measures the sustainability of a country's external financial position. I also control for *inflation*, as persistent price instability may indicate weak macroeconomic management and undermine confidence in the government's capacity to preserve the real value of its obligations. These economic and financial variables are obtained from the World Bank's World Development Indicators (WDI). Lastly, I control for *sovereign default*, as ongoing debt distress can undermine both a government's repayment capacity and its standing with CRAs (Tomz 2007). Based on the classifications reported by Nguyen, Castro and Wood (2022), I code the variable as one for country-years experiencing a sovereign debt crisis and zero otherwise.

The second set of controls includes domestic political factors. I control for *democ-*

racy using the electoral democracy index from the Varieties of Democracy (V-Dem) project (Coppedge, Michael et al. 2026). Democratic institutions can influence sovereign ratings by increasing governmental accountability, policy transparency, and the credibility of repayment commitments, although their effects may depend on the strength of the institutions supporting them (Archer, Biglaiser and DeRouen 2007; Beaulieu, Cox and Saiegh 2012; Hansen 2023). I therefore also include *rule of law* and *political stability* from the Worldwide Governance Indicators (WGI). Strong rule of law can enhance the credibility and predictability of government commitments, while political instability and violence may disrupt economic activity, weaken state capacity, and increase uncertainty about debt repayment (Biglaiser and Staats 2012; Biglaiser, Lee and McGauvran 2024). I additionally control for *political constraints*, which capture the extent to which institutional actors constrain unilateral policy changes by the executive (Ballard-Rosa, Mosley and Wellhausen 2021; Cox and Saiegh 2018). I also include an indicator for a *left-wing government*, as CRAs may view left-leaning governments as more likely to pursue expansionary fiscal policies, redistribution, and higher public spending that may heighten concerns about fiscal deficits and debt sustainability (Barta and Johnston 2018; Cho 2017; Vaaler, Schrage and Block 2006). Both measures are obtained from the Database of Political Institutions (DPI) (Cruz et al. 2026). Descriptive statistics of the variables used in analysis are reported in Table A3 in the Appendix.

4.5 Estimation Strategy

I estimate the relationship between chinese debt and sovereign credit ratings by employing linear regressions with the Driscoll–Kraay estimator. The models are estimated separately for the annual sovereign ratings assigned by Moody's, S&P's, and Fitch. The baseline specification is expressed as follows:

$$\textit{Credit Rating}_{it} = \beta_1 \textit{Debt Balance Tilt toward China}_{i,t-1} + \boldsymbol{\gamma}\mathbf{X}_{i,t-1} + \mu_i + \lambda_t + \varepsilon_{it},$$

where i denotes a country and t denotes a year. The vector $\mathbf{X}_{i,t-1}$ includes the economic and political control variables described above. The model includes country fixed effects, denoted by μ_i, to account for unobserved country characteristics that remain relatively stable over time, such as geography, historical institutions. Year fixed effects, denoted by λ_t, capture common shocks and global trends that may affect bond ratings across countries in a given year, such as international financial crises. The estimated coefficient is therefore identified primarily by changes over time in creditor composition within countries, net of common year-specific shocks.

I employ Driscoll–Kraay standard errors to account for heteroskedasticity, serial correlation within countries, and contemporaneous dependence across countries that may arise in time-series cross-sectional data. Such dependence is particularly relevant in sovereign rating contexts, where global financial shocks, shifts in investor sentiment, and regional crises can affect multiple countries simultaneously and generate cross-country spillovers (Brooks, Cunha and Mosley 2015; Kaminsky and Schmukler 2002). The Driscoll–Kraay estimator produces standard errors that are robust to general forms of heteroskedasticity, temporal dependence, and cross-sectional correlation (Driscoll and Kraay 1998; Hoechle 2007). Finally, I lag all explanatory variables by one year. This temporal ordering reduces concerns that current sovereign ratings directly affect the contemporaneous composition of a country's external debt and ensures that CRAs have had an opportunity to observe the relevant economic, political, and debt-related conditions before assigning their ratings.

5 Results

5.1 Main Findings

Table 1 reports the main results examining the effect of chinese debt on the rating decisions of Moody's, S&P, and Fitch. The results support my hypothesis for Moody's and S&P, although I find no statistically significant association for Fitch. Specifically, the

coefficient on the *Debt Balance Tilt toward China* is negative and statistically significant in Models 1 and 2. Regarding the substantive on credit ratings, a shift from no debt tilt toward China to complete reliance on Chinese rather than Western official creditors reduces Moody's ratings by approximately 6.9 percent of the full rating scale and S&P ratings by approximately 5.8 percent. These findings suggest that, alongside broader economic and political conditions, Moody's and S&P place particular weight on the composition of a country's official external debt when assessing sovereign creditworthiness. The result for Fitch, however, differs from those for the other two agencies. The coefficient in Model 3 is positive but statistically insignificant, providing no systematic relationship between the Chinese debt and Fitch's ratings. This variation may reflect differences across agencies in their methodologies or market strategies (Hill, Brooks and Faff 2010). This variation underscores the value of estimating agency-specific models rather than combining the three rating measures into a single indicator.

The control variables are generally consistent with previous literature. *GDP per capita (log)*, *Trade Openness*, *Rule of Law*, and *Political Stability* are positively and significantly associated with ratings across all three agencies. *FDI inflows* are positively associated with Moody's and S&P ratings, whereas *Reserves* are positively associated with S&P and Fitch ratings. *Sovereign default* has a negative and statistically significant effect in all models. In contrast, neither *GDP growth* nor *Inflation* is statistically significant in any model. *Democracy* is negatively and statistically significantly associated with ratings across all three models. These findings contribute to ongoing debates over the existence of a democratic advantage in sovereign credit ratings (Beaulieu, Cox and Saiegh 2012; Hansen 2023). By contrast, *Left-wing Government* is associated with higher ratings in the S&P and Fitch models. These latter findings are less consistent with conventional expectations and should therefore be interpreted cautiously and examined in future research.

Table 1: Debt Balance and Bond Ratings

	(1) Moody's	(2) S&P	(3) Fitch
Debt Balance Tilt toward China	-1.100**	-0.929***	0.208
	(0.500)	(0.219)	(0.555)
GDP per capita (log)	1.588***	0.959***	1.208***
	(0.180)	(0.213)	(0.238)
GDP Growth	-0.013	0.003	0.005
	(0.013)	(0.015)	(0.008)
Trade (% of GDP)	0.011***	0.006**	0.014***
	(0.003)	(0.003)	(0.004)
FDI Inflows (% of GDP)	0.041***	0.020**	0.009
	(0.008)	(0.007)	(0.018)
Reserves (% of External Debt)	0.000	0.001**	0.011***
	(0.000)	(0.000)	(0.003)
Current Account Balance (% of GDP)	0.008	0.003	-0.016*
	(0.005)	(0.009)	(0.009)
Inflation	-0.004	-0.001	-0.001
	(0.004)	(0.004)	(0.004)
Sovereign Default	-0.336*	-0.638***	-0.287**
	(0.182)	(0.150)	(0.110)
Democracy	-1.807***	-4.103***	-2.921***
	(0.592)	(0.630)	(0.771)
Rule of Law	0.973***	1.790***	1.622***
	(0.258)	(0.257)	(0.246)
Political Stability	1.346***	1.125***	0.828***
	(0.158)	(0.116)	(0.121)
Political Constraints	-0.044*	-0.038	-0.041
	(0.024)	(0.030)	(0.026)
Left-wing Government	0.179	0.490***	0.310*
	(0.180)	(0.168)	(0.151)
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	1,014	1,028	901
Within R^2	0.363	0.410	0.387

Notes: Driscoll–Kraay standard errors with an AR(1) correction are reported in parentheses. All explanatory variables are lagged by one year. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

5.2 Robustness Checks

To ensure the robustness of main findings, I conduct a series of additional empirical analyses, all of which are reported in the Appendix. First, I reestimate the models using several alternative estimation strategies. I begin by replacing country fixed effects with regional fixed effects (Table A4) to account for the possibility that rating decisions are shaped by common regional conditions or cross-border spillovers in sovereign-risk information (Brooks, Cunha and Mosley 2015; Kaminsky and Schmukler 2002; Kim and Wu 2011). I also estimate random effects (Table A5) and linear mixed-effects models (Table A6) as alternatives to the two-way fixed effects specification. Fixed-effects estimators may perform poorly when the explanatory variables change only gradually over time and most of their variation occurs across rather than within countries (Clark and Linzer 2015). The random effects model uses both within- and between-country variation, while the mixed-effects approach more flexibly accommodates cross-country heterogeneity and the multilevel structure of the data (Bell and Jones 2015). Finally, I estimate a Tobit model (Table A7) to account for the bounded nature of the sovereign rating measure, which ranges from 0 to 16. Unlike linear regression, the Tobit specification accommodates censoring at the lower and upper bounds and constrains predicted values to the valid rating range (Wang et al. 2008). The results remain substantively consistent across these alternative specifications, providing additional support for the robustness of main findings.

Second, I address concerns about endogeneity. For one, there is the possibility of nonrandom selection into sovereign rating coverage. Existing literature suggests that only certain types of states, generally those that are creditworthy, seek to have their bonds rated by CRAs (Beaulieu, Cox and Saiegh 2012). One could argue that countries that rely more heavily on Chinese finance may have less need to access global capital markets and, consequently, a lower likelihood of obtaining a CRA rating. This raises the possibility that selection into the rating sample is shaped by countries' demand for external credit. I therefore estimate Heckman selection models (Table A8). Following Beaulieu, Cox and Saiegh (2012), in the

first stage, I estimate the probability that a country receives a rating from each agency, using trade with the United States as an exclusion restriction. In the second stage, I estimate the observed bond rating score. Additionally, I also address reverse causality, since lower-rated countries with limited access to Western financing may subsequently become more dependent on Chinese creditors. To account for this possibility, as well as the persistence of sovereign ratings, I estimate a dynamic system generalized method of moments (GMM) model (Table A9). The model includes a lagged dependent variable and treats the debt balance tilt as potentially endogenous, using lagged values of endogenous variables as internal instruments. The specification accommodates multiple potentially endogenous regressors without relying on external instruments (Blundell and Bond 1998; Roodman 2009).

Third, I examine whether the results are sensitive to alternative measures of the key independent variable. First, to address the potential underreporting of Chinese lending in the World Bank's IDS, I reconstruct the debt balance tilt using the alternative estimates developed by Horn, Reinhart and Trebesch (2025) (Table A10).[4] Second, following Steinwand (2026), I vary the balance point, q, from 0.2 to 0.8 to assess whether the results depend on the 50-percent threshold used in the baseline measure (Figure A1). Third, I replace the transformed debt balance tilt with the untransformed share of debt owed to China among debt owed to Chinese and Western official creditors (Table A11). Fourth, to reduce the influence of short-term fluctuations in creditor composition and mitigate the possibility that contemporaneous debt distress affects the debt balance measure, I replace the annual measure with its two-year moving average, lagged by one year (Table A12). Finally, rather than combining Chinese and Western exposure into a single relative measure, I enter debt owed to China and debt owed to Western official creditors separately, with each expressed as a percentage of GDP (Table A13). This approach helps assess whether the results are driven by greater exposure to China, lower exposure to Western creditors, or both. The estimates show that only debt owed to China is significantly associated with lower sovereign credit

[4]The Chinese-debt data provided by Horn, Reinhart and Trebesch (2025) extend only through 2017; this robustness analysis is therefore restricted to the 2000–2018 period.

ratings.

Finally, I conduct a sensitivity analysis to assess how strongly an unobserved confounder would need to be associated with both the debt balance tilt and sovereign ratings to alter main findings(Figure A2). Following Cinelli and Hazlett (2020), I express the strength of potential confounding in terms of its partial R^2 with the independent and dependent variables and use GDP per capita (log), one of the strongest observed predictors of sovereign ratings, as the benchmark. The contour plots show that the negative estimates for Moody's and S&P are highly robust to unobserved confounding. Relative to the unadjusted coefficients of -1.100 and -0.929, respectively, a hypothetical confounder as strongly associated with both the debt balance tilt and ratings as GDP per capita (log) changes the estimates only to -1.06 for Moody's and -0.91 for S&P. Even a confounder three times as strong as this benchmark leaves the estimates negative and substantively similar, at -0.99 and -0.88, respectively. By contrast, the already insignificant Fitch estimate is more sensitive to potential confounding, shifting from 0.208 to -0.02 under the benchmark scenario and to -0.49 under the three-times benchmark scenario. Overall, the analysis indicates that omitted variables comparable in strength to the most influential observed covariates are unlikely to account for the negative relationships found for Moody's and S&P, while reinforcing my cautious interpretation of the Fitch result.

6 Conclusion

In this paper, I examine how the growing importance of Chinese lending shapes CRAs' assessments of developing countries. As China has emerged as a major official creditor, many developing countries have become increasingly reliant on Chinese finance relative to traditional Western official creditors. I argue that CRAs are likely to view this growing exposure to Chinese debt less favorably for both financial and geopolitical reasons. Chinese lending is often less concessional, less transparent, and embedded in restructuring arrangements that

differ from those of Paris Club governments and multilateral development banks, potentially increasing debt-service pressures and uncertainty surrounding crisis resolution. At the same time, greater reliance on Chinese credit can strengthen Beijing's economic and political influence over borrowing governments and draw them more closely into China-centered financial relationships. Given their deep roots in Western financial markets, the major CRAs may perceive increasing reliance on Chinese creditors as posing risks distinct from those associated with comparable exposure to traditional Western official lenders. I therefore expect developing countries whose official debt portfolios are more heavily tilted toward China to receive lower sovereign credit ratings.

Empirical results provide substantial support for this argument. I find that developing countries whose official debt portfolios are more heavily tilted toward China receive lower sovereign ratings from Moody's and S&P, while no comparable relationship appears for Fitch. I interpret these findings as evidence that creditor composition matters for how major CRAs assess sovereign risk and that greater exposure to Chinese debt can lead to less favorable credit evaluations. The results remain robust across alternative estimation strategies, different measures and data sources for Chinese debt, and models addressing selection, reverse causality, and unobserved confounding. I also find that the relationship is driven primarily by greater exposure to Chinese debt rather than simply by declining reliance on Western official creditors. The broadly consistent pattern across these analyses suggests that the identity of sovereign creditors carries information for CRA assessments beyond the overall level of indebtedness.

These findings contribute to the literature on sovereign credit ratings by extending existing explanations of how CRAs evaluate governments' ability and willingness to repay (Afonso 2003; Cantor and Packer 1996; Beaulieu, Cox and Saiegh 2012). Existing studies have primarily focused on domestic economic fundamentals, political institutions, and government policy credibility, while research on CRA bias has emphasized economic, cultural, and geopolitical proximity to agencies' home countries (Fuchs and Gehring 2017; Yalta and

Yalta 2018). My analysis shows that the composition of sovereign liabilities provides another important dimension of creditworthiness. Two governments with similar overall debt burdens may be evaluated differently depending on the creditors that hold those obligations. This distinction matters because creditors differ in lending terms, transparency, monitoring arrangements, and restructuring practices, each of which can shape how future repayment risk is perceived. By focusing on the relative balance between Chinese and Western official debt, this article therefore moves beyond treating sovereign debt as a homogeneous stock and demonstrates that creditor identity can itself become relevant to professional assessments of sovereign risk. The agency-specific results further suggest that these assessments are not uniform across CRAs, underscoring the importance of examining Moody's, S&P, and Fitch separately rather than treating their ratings as interchangeable measures of creditworthiness.

More broadly, these findings also speak to broader debates about multipolarity and the durability of the existing international order (Adler-Nissen and Zarakol 2021; Weiss and Wallace 2021). Much of the contemporary system of sovereign finance developed around a relatively cohesive group of Western governments, multilateral institutions, and private financial actors whose practices became increasingly institutionalized over time. China's emergence as a major creditor introduces an important actor whose lending practices, institutional arrangements, and geopolitical interests do not always fit easily within these established structures. The resulting challenge is not necessarily the replacement of one financial order by another, but the increasing coexistence of overlapping sources of finance governed by different rules and expectations. Main findings suggest that such fragmentation can have consequences even outside formal interstate institutions. Private actors such as CRAs may transmit changes in the geopolitical structure of sovereign finance into market outcomes by shaping how borrowers are evaluated and, ultimately, the conditions under which they can access capital. In this sense, the rise of Chinese lending illustrates a broader challenge of cooperation in an increasingly fragmented international financial system: institutions and practices developed under a predominantly Western-centered order must now operate in an

environment in which the major actors, sources of finance, and rules governing sovereign debt are increasingly diverse.

I believe that this study opens several avenues for further research on the relationship between creditor composition and sovereign creditworthiness. My analysis identifies a systematic relationship between greater Chinese debt exposure and the ratings issued by Moody's and S&P, but it cannot directly observe how CRA analysts weigh the different characteristics of Chinese debt in individual rating decisions. Future research could examine rating reports, analyst communications, and rating actions more systematically to distinguish whether the observed relationship is driven primarily by concerns over debt affordability, transparency, restructuring uncertainty, or geopolitical dependence. The absence of a comparable relationship for Fitch also deserves closer attention. Differences in rating methodologies, information processing, market position, or organizational strategies may lead agencies to interpret the same creditor exposure differently. More granular loan-level data could further distinguish among Chinese policy banks, commercial banks, collateralized lending, emergency liquidity support, and project finance, rather than treating Chinese official debt as a single category. Finally, future research should investigate the downstream consequences of these rating effects. If less favorable CRA assessments associated with Chinese debt raise borrowing costs or reduce access to Western capital, creditor composition may generate self-reinforcing changes in governments' financing choices. Understanding these dynamics is increasingly important as developing countries navigate a global financial system characterized by competing creditors and an increasingly fragmented international economic order.

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Appendix

Table A1: List of Countries in the Sample

Albania	Fiji	Moldova
Angola	Gabon	Mongolia
Argentina	Gambia	Morocco
Armenia	Georgia	Mozambique
Azerbaijan	Ghana	Nicaragua
Bangladesh	Guatemala	Pakistan
Belarus	Honduras	Papua New Guinea
Bolivia	India	Paraguay
Bosnia and Herzegovina	Indonesia	Peru
Botswana	Iraq	Philippines
Brazil	Jamaica	Rwanda
Cambodia	Jordan	South Africa
Cameroon	Kazakhstan	Sri Lanka
Cape Verde	Kenya	Tanzania
Colombia	Kyrgyz Republic	Thailand
Congo	Lebanon	Tunisia
Democratic Republic of Congo	Lesotho	Turkey
Dominican Republic	Macedonia	Uganda
Ecuador	Madagascar	Ukraine
Egypt	Maldives	Vietnam
El Salvador	Mauritius	Zambia
Ethiopia	Mexico	

Table A2: Coding of Credit Rating Scores

Moody's	S&P	Fitch	Ordinal Scale
Aaa	AAA	AAA	16
Aa1	AA+	AA+	15
Aa2	AA	AA	14
Aa3	AA-	AA-	13
A1	A+	A+	12
A2	A	A	11
A3	A-	A-	10
Baa1	BBB+	BBB+	9
Baa2	BBB	BBB	8
Baa3	BBB-	BBB-	7
Ba1	BB+	BB+	6
Ba2	BB	BB	5
Ba3	BB-	BB-	4
B1	B+	B+	3
B2	B	B	2
B3	B-	B-	1
Caa1	CCC+	CCC+	0
Caa2	CCC	CCC	0
Caa3	CCC-	CCC-	0
Ca	CC	CC	0
–	–	C	0
C	SD	DDD	0
–	D	DD	0
–	–	D	0

Table A3: Descriptive Statistics

Variable	Observations	Mean	Std. Dev.	Minimum	Maximum
Moody's Sovereign Rating	1,014	3.916	2.952	0.000	11.000
S&P Sovereign Rating	1,028	3.793	2.646	0.000	11.000
Fitch Sovereign Rating	901	3.890	2.641	0.000	13.000
Debt Balance Tilt toward China ($q = 0.5$)	1,028	0.079	0.208	0.000	0.987
Debt Balance Tilt toward China ($q = 0.2$)	1,028	0.146	0.260	0.000	0.992
Debt Balance Tilt toward China ($q = 0.3$)	1,028	0.122	0.245	0.000	0.991
Debt Balance Tilt toward China ($q = 0.4$)	1,028	0.100	0.227	0.000	0.989
Debt Balance Tilt toward China ($q = 0.6$)	1,028	0.059	0.186	0.000	0.983
Debt Balance Tilt toward China ($q = 0.7$)	1,028	0.042	0.163	0.000	0.978
Debt Balance Tilt toward China ($q = 0.8$)	1,028	0.028	0.136	0.000	0.967
Debt Balance Tilt toward China (Two-Year Moving Average)	999	0.079	0.206	0.000	0.985
Chinese Western Debt (% of Total Debt)	1,028	0.207	0.277	0.000	0.993
Debt Balance Tilt toward China (HRT)	645	0.141	0.284	0.000	0.992
Chinese Debt (% of GDP)	1,028	0.021	0.048	0.000	0.455
Western Official Debt (% of GDP)	1,028	0.053	0.056	0.000	0.438
GDP per capita (log)	1,028	7.980	0.847	5.607	9.584
GDP Growth	1,028	3.865	4.301	-28.759	25.463
Trade (% of GDP)	1,028	74.366	30.721	21.460	186.676
FDI Inflows (% of GDP)	1,028	3.899	4.886	-37.173	43.912
Reserves (% of External Debt)	1,028	61.847	149.562	3.229	2,302.442
Current Account Balance (% of GDP)	1,028	-3.249	7.845	-43.771	33.679
Inflation	1,028	8.153	11.758	-28.760	150.001
Sovereign Default	1,028	0.199	0.400	0.000	1.000
Democracy	1,028	0.491	0.198	0.130	0.877
Rule of Law	1,028	-0.490	0.464	-1.822	0.800
Political Stability	1,028	-0.491	0.726	-2.810	1.171
Political Constraints	1,028	2.935	1.631	1.000	17.000
Left-wing Government	1,028	0.284	0.451	0.000	1.000
Trade with the United States (log)	1,028	21.626	2.098	15.793	27.387

Table A4: Robustness Check: Regional Fixed-Effects Models

	(1) Moody's	(2) S&P	(3) Fitch
Debt Balance Tilt toward China	-1.288**	-1.205***	-2.109***
	(0.543)	(0.324)	(0.402)
GDP per capita (log)	1.112***	0.908***	0.972***
	(0.074)	(0.065)	(0.130)
GDP Growth	-0.020	0.018	-0.003
	(0.016)	(0.017)	(0.017)
Trade (% of GDP)	0.001	0.001	-0.003
	(0.002)	(0.002)	(0.003)
FDI Inflows (% of GDP)	0.052**	0.034	0.061*
	(0.021)	(0.023)	(0.032)
Reserves (% of External Debt)	0.003**	0.004***	0.011***
	(0.001)	(0.001)	(0.002)
Current Account Balance (% of GDP)	0.061***	0.050***	0.049***
	(0.017)	(0.017)	(0.015)
Inflation	-0.033***	-0.026***	-0.024***
	(0.007)	(0.005)	(0.007)
Sovereign Default	-1.717***	-1.481***	-1.771***
	(0.194)	(0.089)	(0.161)
Democracy	-1.408*	-2.585***	-2.834***
	(0.787)	(0.427)	(0.383)
Rule of Law	1.371***	1.484***	1.814***
	(0.190)	(0.250)	(0.299)
Political Stability	0.206	0.174	-0.145
	(0.163)	(0.153)	(0.204)
Political Constraints	0.225***	0.191***	0.162***
	(0.043)	(0.047)	(0.035)
Left-wing Government	-0.133*	0.112	0.361*
	(0.070)	(0.108)	(0.174)
Regional fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	1,014	1,028	901
R^2	0.538	0.495	0.459

Notes: Driscoll–Kraay standard errors with an AR(1) correction are reported in parentheses. All explanatory variables are lagged by one year. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

Table A5: Robustness Check: Random-Effects Models

	(1) Moody's	(2) S&P	(3) Fitch
Debt Balance Tilt toward China	-1.277***	-1.120***	-0.450
	(0.324)	(0.155)	(0.474)
GDP per capita (log)	1.266***	0.943***	1.109***
	(0.102)	(0.144)	(0.218)
GDP Growth	-0.005	0.008	0.007
	(0.013)	(0.014)	(0.010)
Trade (% of GDP)	0.002	0.001	0.006
	(0.004)	(0.002)	(0.004)
FDI Inflows (% of GDP)	0.041***	0.020**	0.013
	(0.009)	(0.009)	(0.019)
Reserves (% of External Debt)	0.001**	0.001**	0.012***
	(0.000)	(0.000)	(0.002)
Current Account Balance (% of GDP)	0.011*	0.006	-0.011
	(0.006)	(0.011)	(0.010)
Inflation	-0.005	-0.001	-0.002
	(0.003)	(0.004)	(0.003)
Sovereign Default	-0.444**	-0.690***	-0.437***
	(0.159)	(0.148)	(0.103)
Democracy	-2.014***	-3.815***	-2.844***
	(0.670)	(0.618)	(0.596)
Rule of Law	1.157***	1.692***	1.640***
	(0.391)	(0.315)	(0.218)
Political Stability	1.122***	0.983***	0.666***
	(0.203)	(0.158)	(0.170)
Political Constraints	-0.034	-0.027	-0.027
	(0.031)	(0.040)	(0.040)
Left-wing Government	0.189	0.449***	0.328**
	(0.153)	(0.158)	(0.127)
Country random effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	1,014	1,028	901
R^2	0.278	0.289	0.245

Notes: Driscoll–Kraay standard errors with an AR(1) correction are reported in parentheses. All explanatory variables are lagged by one year. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

Table A6: Robustness Check: Linear Mixed-Effects Models

	(1) Moody's	(2) S&P	(3) Fitch
Debt Balance Tilt toward China	-1.187***	-1.057***	-0.229
	(0.346)	(0.315)	(0.433)
GDP per capita (log)	1.398***	0.947***	1.134***
	(0.169)	(0.153)	(0.169)
GDP Growth	-0.008	0.006	0.006
	(0.010)	(0.011)	(0.010)
Trade (% of GDP)	0.006*	0.003	0.009**
	(0.003)	(0.003)	(0.003)
FDI Inflows (% of GDP)	0.041***	0.020**	0.012
	(0.011)	(0.010)	(0.010)
Reserves (% of External Debt)	0.000	0.001***	0.011***
	(0.000)	(0.000)	(0.002)
Current Account Balance (% of GDP)	0.009	0.005	-0.013*
	(0.007)	(0.007)	(0.008)
Inflation	-0.005	-0.001	-0.001
	(0.004)	(0.003)	(0.004)
Sovereign Default	-0.386**	-0.671***	-0.381**
	(0.158)	(0.134)	(0.159)
Democracy	-1.929***	-3.908***	-2.872***
	(0.488)	(0.491)	(0.498)
Rule of Law	1.069***	1.722***	1.635***
	(0.238)	(0.206)	(0.246)
Political Stability	1.230***	1.031***	0.721***
	(0.119)	(0.103)	(0.115)
Political Constraints	-0.039	-0.031	-0.032
	(0.033)	(0.031)	(0.034)
Left-wing Government	0.186	0.463***	0.322***
	(0.121)	(0.109)	(0.119)
Country random intercepts	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	1,014	1,028	901
Wald χ^2	547.205	685.371	536.477

Notes: Standard errors are reported in parentheses.. All explanatory variables are lagged by one year. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

Table A7: Robustness Check: Tobit Models

	(1) Moody's	(2) S&P	(3) Fitch
Debt Balance Tilt toward China	-1.104*	-0.991*	0.636
	(0.633)	(0.517)	(0.765)
GDP per capita (log)	1.843***	1.072***	1.460***
	(0.555)	(0.394)	(0.426)
GDP Growth	-0.006	0.018	0.018
	(0.017)	(0.017)	(0.014)
Trade (% of GDP)	0.011	0.006	0.016***
	(0.007)	(0.007)	(0.006)
FDI Inflows (% of GDP)	0.050***	0.018	0.009
	(0.011)	(0.014)	(0.024)
Reserves (% of External Debt)	0.000	0.001	0.011***
	(0.001)	(0.000)	(0.004)
Current Account Balance (% of GDP)	0.008	0.005	-0.017
	(0.013)	(0.010)	(0.012)
Inflation	-0.015**	-0.012**	-0.011*
	(0.007)	(0.005)	(0.006)
Sovereign Default	-0.573	-0.739***	-0.323
	(0.363)	(0.268)	(0.251)
Democracy	-1.987*	-4.694***	-3.573***
	(1.027)	(1.429)	(1.102)
Rule of Law	1.010*	2.023***	1.969***
	(0.592)	(0.468)	(0.507)
Political Stability	1.521***	1.218***	0.851***
	(0.351)	(0.296)	(0.266)
Political Constraints	-0.041	-0.030	-0.029
	(0.055)	(0.039)	(0.031)
Left-wing Government	0.226	0.537**	0.288
	(0.230)	(0.261)	(0.202)
Error variance	1.200***	0.999***	1.142***
	(0.178)	(0.133)	(0.280)
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	1,014	1,028	901
Pseudo R^2	0.419	0.418	0.402

Notes: Standard errors clustered by country are reported in parentheses. All explanatory variables are lagged by one year. Dashes indicate that fixed-effect status is not reported in the source output. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

Table A8: Robustness Check: Heckman Selection Models

	(1) Moody's	(2) S&P	(3) Fitch
Outcome Equation: Sovereign Rating			
Debt Balance Tilt toward China	-1.079***	-1.013***	0.204
	(0.323)	(0.348)	(0.437)
GDP per capita (log)	1.980***	1.253***	1.147***
	(0.211)	(0.219)	(0.241)
GDP Growth	-0.016	-0.005	0.005
	(0.010)	(0.014)	(0.010)
Trade (% of GDP)	0.013***	0.006	0.014***
	(0.003)	(0.004)	(0.004)
FDI Inflows (% of GDP)	0.050***	0.049***	0.004
	(0.011)	(0.014)	(0.016)
Reserves (% of External Debt)	-0.001	-0.000	0.011***
	(0.000)	(0.000)	(0.002)
Current Account Balance (% of GDP)	0.000	0.007	-0.019*
	(0.007)	(0.008)	(0.010)
Inflation	-0.005	-0.003	-0.001
	(0.004)	(0.004)	(0.004)
Sovereign Default	-0.540***	-0.982***	-0.234
	(0.164)	(0.186)	(0.206)
Democracy	-1.419***	-3.498***	-3.032***
	(0.510)	(0.679)	(0.579)
Rule of Law	0.934***	1.808***	1.607***
	(0.244)	(0.265)	(0.255)
Political Stability	1.329***	1.133***	0.841***
	(0.121)	(0.135)	(0.120)

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Table A8 (continued)

	(1)	(2)	(3)
	Moody's	S&P	Fitch
Political Constraints	-0.040	-0.036	-0.041
	(0.034)	(0.042)	(0.034)
Left-wing Government	0.107	0.414***	0.304***
	(0.125)	(0.145)	(0.118)
Selection Equation: Rating Access			
Trade with the United States (log)	0.493***	0.458***	0.272***
	(0.029)	(0.026)	(0.021)
GDP per capita (log)	0.553***	0.239***	0.277***
	(0.065)	(0.060)	(0.054)
GDP Growth	-0.008	-0.020**	-0.008
	(0.010)	(0.009)	(0.008)
Trade (% of GDP)	0.001	-0.005***	-0.005***
	(0.001)	(0.001)	(0.001)
FDI Inflows (% of GDP)	0.017**	0.035***	0.041***
	(0.009)	(0.008)	(0.009)
Reserves (% of External Debt)	-0.001***	-0.001***	-0.005***
	(0.000)	(0.000)	(0.001)
Current Account Balance (% of GDP)	-0.020***	0.003	0.017***
	(0.006)	(0.005)	(0.005)
Inflation	-0.004	-0.003	-0.002
	(0.003)	(0.003)	(0.002)
Sovereign Default	-0.465***	-0.562***	-0.476***
	(0.104)	(0.099)	(0.090)
Democracy	0.668**	0.764**	1.013***
	(0.322)	(0.303)	(0.265)
Rule of Law	0.229*	0.203*	0.346***

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Table A8 (continued)

	(1)	(2)	(3)
	Moody's	S&P	Fitch
	(0.119)	(0.110)	(0.095)
Political Stability	0.057	0.131*	-0.046
	(0.083)	(0.079)	(0.069)
Political Constraints	0.005	-0.025	-0.015
	(0.035)	(0.033)	(0.030)
Left-wing Government	-0.311***	-0.230**	0.118
	(0.102)	(0.096)	(0.088)
Inverse Mills Ratio	1.016***	1.443***	-0.207
	(0.272)	(0.345)	(0.519)
Observations	1,624	1,624	1,624
Selected	1,014	1,028	901
Nonselected	610	596	723
Wald χ^2	6,156.386	3,496.492	3,753.950

Notes: Heckman two-step corrected standard errors are reported in parentheses. All explanatory variables are lagged by one year. The selection equation models access to a sovereign rating; trade with the United States is excluded from the outcome equation. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

Table A9: Robustness Check: Dynamic System GMM Models

	(1) Moody's	(2) S&P	(3) Fitch
Lagged Sovereign Rating	1.019***	0.882***	1.020***
	(0.028)	(0.047)	(0.054)
Debt Balance Tilt toward China	-0.372*	-0.477*	-0.116
	(0.189)	(0.250)	(0.304)
GDP per capita (log)	-0.015	0.116**	-0.002
	(0.035)	(0.047)	(0.069)
GDP Growth	0.013**	0.032***	0.020***
	(0.006)	(0.004)	(0.006)
Trade (% of GDP)	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)
FDI Inflows (% of GDP)	0.009	0.009*	0.004
	(0.006)	(0.005)	(0.007)
Reserves (% of External Debt)	-0.000	0.000	-0.000
	(0.000)	(0.000)	(0.001)
Current Account Balance (% of GDP)	0.010***	0.013***	0.006*
	(0.003)	(0.003)	(0.004)
Inflation	-0.001	-0.003	-0.003
	(0.002)	(0.003)	(0.004)
Sovereign Default	-0.057	-0.178**	-0.014
	(0.067)	(0.068)	(0.104)
Democracy	0.323***	-0.335	0.245
	(0.109)	(0.269)	(0.257)
Rule of Law	-0.130*	0.068	-0.113
	(0.075)	(0.115)	(0.130)
Political Stability	-0.007	0.033	-0.028
	(0.028)	(0.051)	(0.042)
Political Constraints	-0.011	0.037*	-0.009
	(0.011)	(0.019)	(0.017)
Left-wing Government	-0.000	-0.020	0.007
	(0.039)	(0.046)	(0.054)
Hansen test (p-value)	1.000	0.999	0.999
AR(1) test (p-value)	0.000	0.000	0.012
AR(2) test (p-value)	0.137	0.446	0.308
Observations	956	973	856

Notes: Robust standard errors are reported in parentheses. All explanatory variables are lagged by one year. The lagged rating and debt balance tilt are instrumented with collapsed GMM-style instruments from lag 3 onward. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

Table A10: Robustness Check: Alternative Chinese Lending Estimates

	(1) Moody's	(2) S&P	(3) Fitch
Debt Balance Tilt toward China	-0.525**	0.040	0.423
	(0.236)	(0.150)	(0.412)
GDP per capita (log)	1.387***	0.693*	0.927**
	(0.264)	(0.335)	(0.332)
GDP Growth	0.018	0.037**	0.027**
	(0.016)	(0.017)	(0.012)
Trade (% of GDP)	0.015***	0.005	0.019**
	(0.005)	(0.003)	(0.008)
FDI Inflows (% of GDP)	0.035***	0.031***	0.041*
	(0.009)	(0.007)	(0.023)
Reserves (% of External Debt)	0.000	0.001*	0.012***
	(0.000)	(0.000)	(0.002)
Current Account Balance (% of GDP)	0.016*	0.017*	0.001
	(0.009)	(0.008)	(0.011)
Inflation	-0.015	-0.007	-0.012
	(0.009)	(0.007)	(0.007)
Sovereign Default	-0.185	-0.643***	-0.187
	(0.232)	(0.172)	(0.173)
Democracy	-2.060***	-4.032***	-3.876***
	(0.551)	(0.852)	(0.562)
Rule of Law	1.026*	1.664***	1.135***
	(0.521)	(0.319)	(0.304)
Political Stability	1.245***	1.067***	0.799***
	(0.209)	(0.102)	(0.215)
Political Constraints	0.014	-0.006	-0.022
	(0.027)	(0.030)	(0.022)
Left-wing Government	0.318**	0.417***	0.177
	(0.119)	(0.137)	(0.154)
Constant	-6.044***	0.899	-2.562
	(2.030)	(2.511)	(3.073)
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	601	645	520
Within R^2	0.374	0.409	0.374

Notes: Standard errors are reported in parentheses. The alternative Chinese lending estimates are available through 2017; all explanatory variables are lagged by one year. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

Figure A1: Alternative Balance Point (q)

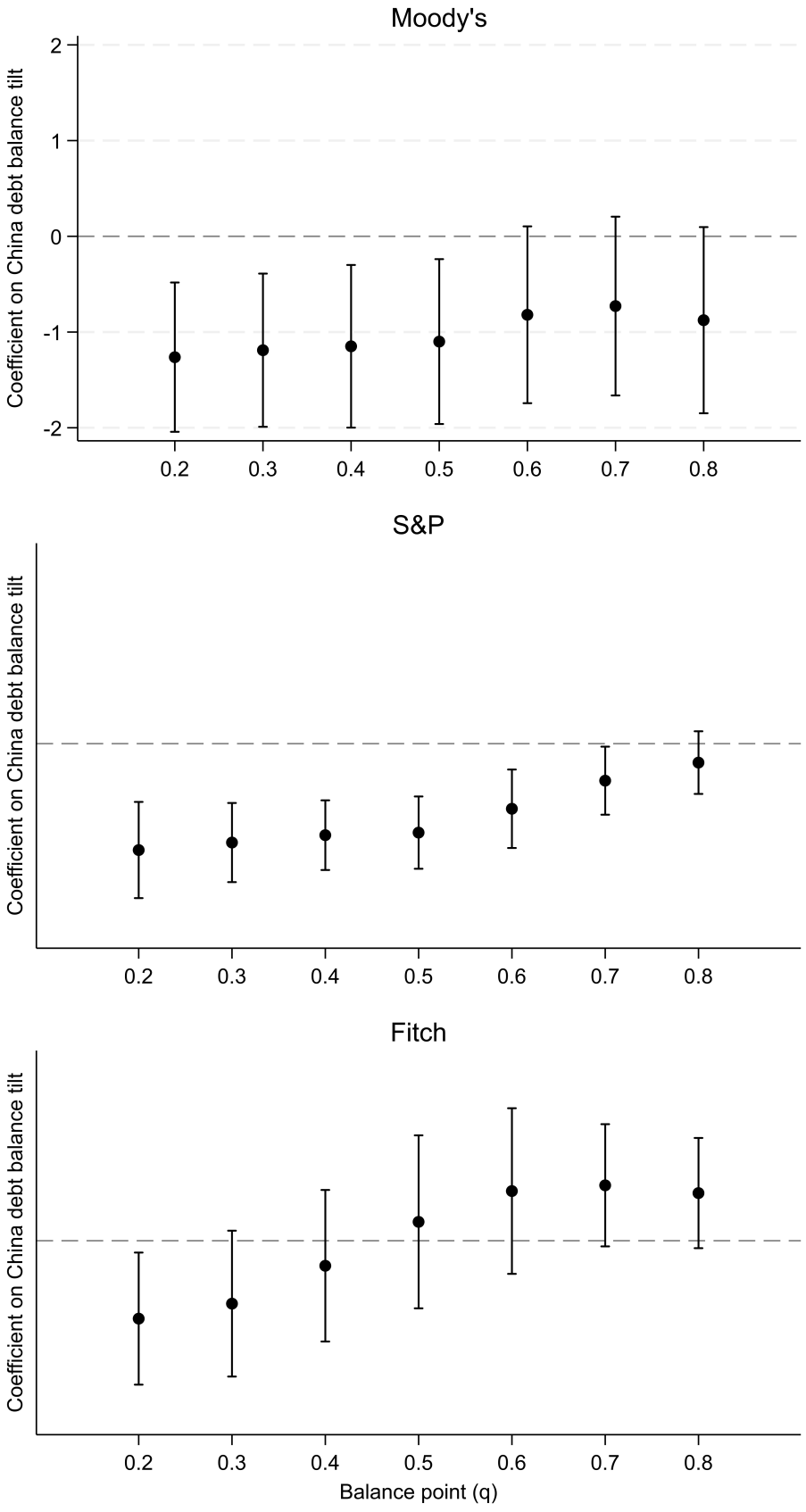


Table A11: Robustness Check: Untransformed Share of Chinese Debt

	(1) Moody's	(2) S&P	(3) Fitch
Chinese Western Debt (% of Total Debt)	-1.365***	-1.185***	-0.895**
	(0.409)	(0.287)	(0.373)
GDP per capita (log)	1.557***	0.976***	1.187***
	(0.177)	(0.215)	(0.235)
GDP Growth	-0.011	0.004	0.005
	(0.013)	(0.015)	(0.008)
Trade (% of GDP)	0.009**	0.005	0.012**
	(0.004)	(0.003)	(0.004)
FDI Inflows (% of GDP)	0.038***	0.020***	0.012
	(0.008)	(0.006)	(0.018)
Reserves (% of External Debt)	0.000	0.001**	0.010***
	(0.000)	(0.000)	(0.003)
Current Account Balance (% of GDP)	0.005	0.000	-0.015
	(0.004)	(0.009)	(0.009)
Inflation	-0.004	-0.001	-0.001
	(0.004)	(0.004)	(0.004)
Sovereign Default	-0.325*	-0.623***	-0.331***
	(0.175)	(0.146)	(0.114)
Democracy	-1.867***	-4.090***	-2.954***
	(0.631)	(0.628)	(0.777)
Rule of Law	1.036***	1.840***	1.697***
	(0.267)	(0.261)	(0.251)
Political Stability	1.307***	1.077***	0.801***
	(0.144)	(0.107)	(0.119)
Political Constraints	-0.041	-0.036	-0.035
	(0.024)	(0.031)	(0.025)
Left-wing Government	0.201	0.520***	0.357**
	(0.181)	(0.174)	(0.156)
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	1,014	1,028	901
Within R^2	0.369	0.417	0.392

Notes: Driscoll–Kraay standard errors with an AR(1) correction are reported in parentheses. All explanatory variables are lagged by one year. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

Table A12: Robustness Check: Two-Year Moving Average of Debt Balance Tilt

	(1) Moody's	(2) S&P	(3) Fitch
Debt Balance Tilt toward China	-1.151**	-0.848***	0.343
	(0.530)	(0.259)	(0.620)
GDP per capita (log)	1.572***	0.886***	1.221***
	(0.199)	(0.208)	(0.256)
GDP Growth	-0.009	0.007	0.007
	(0.013)	(0.014)	(0.008)
Trade (% of GDP)	0.010***	0.005*	0.014***
	(0.003)	(0.002)	(0.005)
FDI Inflows (% of GDP)	0.041***	0.020**	0.006
	(0.009)	(0.007)	(0.019)
Reserves (% of External Debt)	0.000	0.001**	0.010***
	(0.000)	(0.000)	(0.003)
Current Account Balance (% of GDP)	0.008	0.002	-0.018**
	(0.005)	(0.009)	(0.009)
Inflation	-0.002	0.001	-0.001
	(0.003)	(0.003)	(0.004)
Sovereign Default	-0.317	-0.542***	-0.239**
	(0.209)	(0.147)	(0.103)
Democracy	-1.939***	-4.116***	-2.939***
	(0.657)	(0.699)	(0.881)
Rule of Law	1.078***	1.914***	1.746***
	(0.233)	(0.215)	(0.205)
Political Stability	1.356***	1.102***	0.770***
	(0.166)	(0.128)	(0.113)
Political Constraints	-0.051*	-0.046	-0.037
	(0.025)	(0.032)	(0.026)
Left-wing Government	0.180	0.520***	0.306*
	(0.182)	(0.166)	(0.151)
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	981	999	881
Within R^2	0.364	0.411	0.382

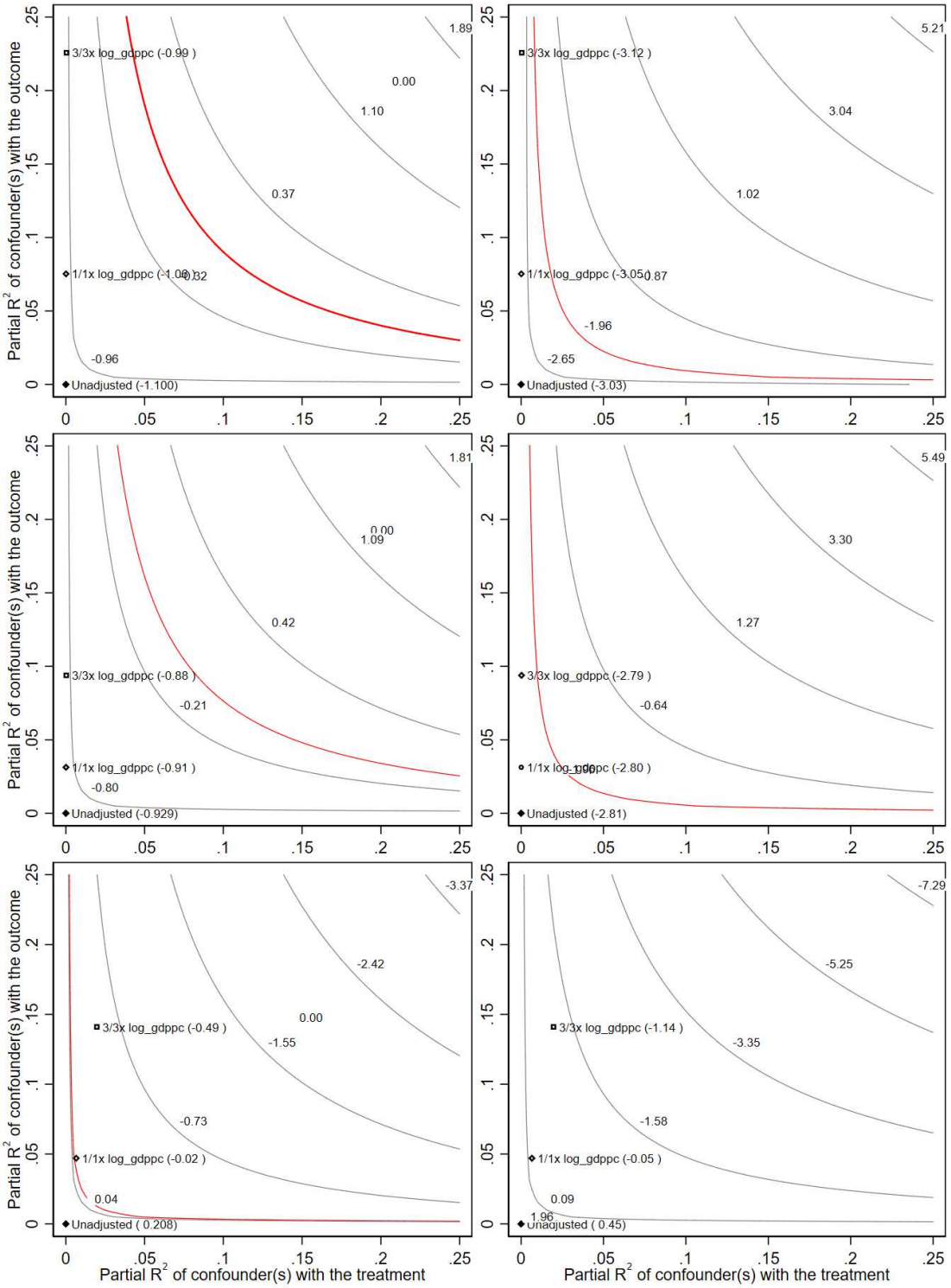
Notes: The debt balance tilt is measured as a two-year moving average. Driscoll–Kraay standard errors with an AR(1) correction are reported in parentheses. All explanatory variables are lagged by one year. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

Table A13: Robustness Check: Separate Chinese and Western Debt Exposure

	(1) Moody's	(2) S&P	(3) Fitch
Western Official Debt (% of GDP)	1.920*	0.284	3.099
	(0.952)	(0.733)	(2.154)
Chinese Debt (% of GDP)	-6.295***	-5.304***	-3.754***
	(1.688)	(0.889)	(0.962)
GDP per capita (log)	1.441***	0.843***	1.156***
	(0.160)	(0.204)	(0.258)
GDP Growth	-0.013	0.002	0.005
	(0.014)	(0.014)	(0.009)
Trade (% of GDP)	0.008**	0.004*	0.011***
	(0.003)	(0.003)	(0.004)
FDI Inflows (% of GDP)	0.034***	0.017**	0.010
	(0.008)	(0.007)	(0.018)
Reserves (% of External Debt)	0.000	0.001**	0.011***
	(0.000)	(0.000)	(0.003)
Current Account Balance (% of GDP)	0.003	-0.002	-0.016*
	(0.003)	(0.008)	(0.008)
Inflation	-0.005	-0.001	-0.001
	(0.004)	(0.004)	(0.004)
Sovereign Default	-0.390*	-0.663***	-0.381***
	(0.209)	(0.171)	(0.121)
Democracy	-1.779***	-4.055***	-2.950***
	(0.604)	(0.653)	(0.757)
Rule of Law	0.986***	1.805***	1.610***
	(0.276)	(0.281)	(0.264)
Political Stability	1.333***	1.101***	0.827***
	(0.164)	(0.118)	(0.120)
Political Constraints	-0.046*	-0.039	-0.040
	(0.024)	(0.031)	(0.027)
Left-wing Government	0.228	0.516***	0.371**
	(0.173)	(0.170)	(0.137)
Country fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	1,014	1,028	901
Within R^2	0.369	0.415	0.394

Notes: Chinese and Western official debt are expressed as percentages of GDP. Driscoll–Kraay standard errors with an AR(1) correction are reported in parentheses. All explanatory variables are lagged by one year. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

Figure A2: Sensitivity Analysis



Notes: The sensitivity contour plots display the point estimate in the left panel and the t-statistic in the right panel.