

Terms and Conditions: The Pricing and Politics of Bilateral Sovereign Lending

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Abstract

Many governments engage in official bilateral lending to low and middle income countries, yet we have little systematic evidence regarding the ways in which governments make choices regarding the terms of these loans. Consistent with scholarship on foreign aid as well as with multilateral bank lending, we hypothesize that lending terms – interest rate, maturity, and grace period – evidence creditor governments’ geopolitical as well as development-related preferences. Using loan-level data on bilateral loans to 128 low- and middle-income borrowers from 1990 to 2020, we investigate three potential models of bilateral loan pricing. We find empirical support for a development model, in which creditor governments offer easier access to financing to countries with greater development needs; indeed, this model has become more prominent over time. We also report substantial support for a strategic interest model, in which geopolitical and economic ties are associated with more generous financing conditions. We find less support for a market model, in which bilateral credit is priced on the basis of default risk. We corroborate these findings with separate data on the US’ bilateral loans 1990-2020, which allow us to identify the determinants of loan pricing for different agencies, including the US Export Import Bank, US Agency for International Development and the US Department of Defense. The paper contributes to the growing literature on bilateral lending by shedding light on the terms of these loans and allows for a more comprehensive understanding of the financing options available to borrowing governments.¹

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1 Introduction

Governments often serve as important sources of sovereign finance for other governments. While low and middle income countries have been increasingly able to access private credit markets during the last decade (Ballard-Rosa, Mosley and Wellhausen, 2021; Zeitz, 2022), bilateral official creditors remain an important part of the sovereign finance landscape. In 2010, bilateral creditors accounted for 36 percent of developing countries' gross external public debt stocks; in 2021, this share stood at 32 percent.

Although much attention has been paid to China's rise as a bilateral sovereign creditor during the last decade (Brown, 2023; Dreher et al., 2022; Horn, Reinhart and Trebesch, 2021; Horn, Parks, Reinhart and Trebesch, 2023), countries including Brazil, India, Saudi Arabia and Turkey also have come important sources of bilateral official finance. Among OECD nations, bilateral sovereign lending is a long-standing practice (Horn, Reinhart and Trebesch, 2020); the Paris Club group of official bilateral creditors, founded in 1958, has long played an important role in debt restructuring for countries facing fiscal crises. Recent studies of bilateral official lending explore the conditions under which governments lend; how much they lend; and the emergence of bilateral lending networks (Kinne and Bunte, 2018; Bunte, 2018). This work reveals the role of geopolitical as well as macroeconomic factors in these processes.

We focus on another element of bilateral official credit – the terms on which governments make these loans. For borrowing governments, the terms of these loans – the price (interest rate), as well as the maturity, grace period and other features – are very important. The terms determine the costs of servicing bilateral debt relative to other forms of credit, including multilateral official, private bond market, and resource-backed loans. Indeed, contemporary concerns about debt sustainability in developing countries are partly driven by the high interest rates on some bilateral loans, especially those from China (Mihalyi and Trebesch, 2023).

All sovereign credit reflects the intersection of demand (from borrowers) and supply (from lenders). On the demand side, certain types of governments may prefer, for domestic political reasons, to borrow from certain creditors (Bunte, 2018; Cormier, 2022; Mosley and Rosendorff, 2023); other borrowing governments may privilege certain terms – issuing debt in foreign versus domestic currency, for instance (Ballard-Rosa, Mosley and Wellhausen, 2022). With respect to the supply side, creditors assess default risk (Tomz, 2007), typically offering debt terms commensurate with their perceptions of a borrower’s debt sustainability. Supply side processes also reflect global credit conditions as well as an attention to other creditors’ actions (Kinne and Bunte, 2018; Mosley, 2003; Ballard-Rosa, Mosley and Wellhausen, 2021).

We focus on the supply side, and we hypothesize that lending terms are another arena in which creditor governments evidence geopolitical as well as development-related preferences. This is commensurate with a large literature documenting the role of geopolitical considerations in bilateral foreign aid (see, for instance, Bearce and Tirone (2010); de Mesquita and Smith (2007); Dreher et al. (2018)), as well as with recent research on the political economy of multilateral development bank lending (such as Clark and Dolan (2021); Humphrey (2014); Peitz (2023)). We consider three different models of bilateral loan pricing: (1) a market model, in which creditors offer more expensive terms for riskier borrowers; (2) a development model, providing cheaper finance to countries with higher development needs; and (3) a strategic interest model, which provides more generous lending terms to countries that are strategically or economically important.

To test determinants of loan pricing we use loan-level data on bilateral loans to 128 low- and middle-income borrowers from 1990 to 2020. Granular data on interest rates, maturity, and grace periods allow us to calculate the concessionality, or generosity, of individual loans. We find that the development model has become more prominent over time, with loan terms becoming increasingly generous for poorer developing countries. We also report substantial support for the strategic interest model, with more generous terms extended to borrowers more closely aligned with the creditor.

We corroborate these findings using detailed loan-level data from one particular lender, the United States. These data also allow us to consider also the fragmentation of bilateral official lending: often, multiple agencies within a creditor country make bilateral loans. We might expect significant variation in outcomes across loan agencies (Carcelli, 2023). While the cross-country dyadic loan-level data from the International Debt Statistics database does not identify the individual agency providing the loan, data from the US' Foreign Credit Reporting System allows us to analyze determinants of loan pricing separately for the US Export Import Bank, US Agency for International Development, US Department of Defense, and US Department of Agriculture. We find evidence of the strategic interest model of loan pricing among these US lenders.

This paper contributes to the growing literature on bilateral lending by shedding light on the behavior of official creditors. Doing so also offers a more comprehensive understanding of the financing options available to borrowing governments. The paper proceeds as follows. Section 2 discusses the practice of bilateral lending, explaining when and why governments extend loans to other countries. In section 3 we develop our argument for how lenders discriminate among borrowers, providing more generous terms to some than others. We describe the data in section 4 and present results in section 5. Section 6 concludes by discussing the policy implications of countries' differential access to generous terms of bilateral financing.

2 Bilateral lending

When governments borrow externally, they typically have a range of creditors and credit instruments from which to choose.² They can borrow from other governments, as well as from multilateral development banks, international bond markets and private banks. Loans from other governments – bilateral lending – serve a range of purposes; some provide short-term liquidity to stave off financial crises, while others finance specific projects (sometimes

²On the increasing fragmentation of the creditor base of low- and middle-income countries, see World Bank (2022).

carried out by firms from the creditor country). Still other bilateral loans offer more general budget support, providing governments with fungible resources.

Bilateral loans play an important role in sovereign finance, especially in the overseas finance provided by emerging economies like China (Dreher et al., 2022). They account for a bit more than one-third of the external borrowing by low- and middle-income countries (World Bank, 2022). Bilateral loans are distinct from foreign aid, also known as official development assistance (ODA). To qualify as ODA, a financial transfer must be considerably cheaper than market finance, including grants without expectation of repayment, and be explicitly aimed at improving development outcomes (OECD, 2021). By contrast, bilateral loans are state-to-state transfers with the expectation of repayment, which can be priced close to or at market rates, and they need not be connected to development objectives.

Like some foreign aid, however, bilateral loans may reflect governments' strategic considerations. Bilateral credit can be used to reward other governments, to extract policy concessions or to exercise influence. State-to-state lending also is affected by global political and economic dynamics. Historically, volumes of state-to-state lending have spiked around global crises, whether wars or financial crises, as creditor governments provide funding to allies and neighbors to weather the storm (Horn, Reinhart and Trebesch, 2020). More recently, sustained low interest rates in mature markets have coincided with an expansion in bilateral lending, suggesting that such activity also may be conditioned by broader credit conditions (Ballard-Rosa, Mosley and Wellhausen, 2021; Rey, 2016).

Bilateral loans can be grouped into different categories, corresponding to the motivations of the governments extending these loans, including export finance, emergency liquidity, and support to allies. Export credits, which make up the largest share of bilateral lending, are primarily driven by the commercial interests of creditor countries. Public export credit agencies (ECAs) were established to fill a market gap: many developing country governments struggled to raise finance from private lenders to procure products and services from advanced economies, so ECAs facilitate this exchange (Stephens, 1999; Blackmon, 2017). This

type of bilateral finance provides benefits to exporting firms in creditor countries, as well as to recipient governments. To avoid costly competition among ECAs and prevent excessive subsidies to exports, a number of countries within the OECD agreed to limit price competition among themselves and set interest rates on export credits broadly in line with market prices (Moravcsik, 1989; Levit, 2004). China and other non-members are not bound by this agreement, giving them more discretion to use cheaper export finance to support domestic firms (Bunte, Gertz and Zeitz, 2021; Hopewell, 2021). Indeed, export credits make up the majority of the large flows of overseas finance that have led to China becoming the world's leading bilateral creditor (Horn, Reinhart and Trebesch, 2021).

Other bilateral loans are made to finance specific projects, often related to infrastructure. These projects may be carried out by firms based in the creditor country, and the loans may be collateralized with proceeds from the project (for instance, toll road revenues).³

Another category of bilateral loans are provided as emergency liquidity to help countries struggling with balance of payments problems, including those brought on by banking, currency and/or debt crises. While the International Monetary Fund (IMF) acts as the global lender of last resort, the Fund places both annual and cumulative limits (on the basis of quota contributions) on member countries' access to general resources. Even given the IMF's exceptional access framework, countries facing crises often require additional resources (Schneider and Tobin, 2020).

Governments providing bilateral emergency finance often aim to limit the negative spillover effects of the financial crisis, preventing contagion of the crisis to their own economy. More broadly, providing emergency liquidity can have a stabilizing effect on the global economy. Schneider and Tobin (2020) show that G7 countries are more likely to extend bilateral bailouts to countries to whom they have higher trade and financial exposure. At the same time, creditor governments are constrained by domestic considerations: they are less likely to provide emergency finance if they face an election. Recent data suggests that China also

³On the use of collateralized sovereign finance in the nineteenth century and its contemporary implications for development, see (Queralt, 2022).

has acted as a lender of last resort, providing liquidity to borrowers facing financial distress (Horn, Parks, Reinhart and Trebesch, 2023). Doing so allows China’s policy banks – the vehicle for much of its bilateral lending – to avoid writing down loan principal.

In addition to the commercial considerations of export finance and the financial stability concerns motivating emergency liquidity, bilateral lenders may be motivated to provide loans to extend their influence, reward allies, and protect their commercial interests. Under such circumstances, they can provide bilateral loans that are extremely flexible. In some cases, lenders may use this credit to increase military expenditure, reinforcing military alliances between the creditor and borrower. Kinne and Bunte (2018) show that defense commitments and bilateral loans often go together, finding that governments are more likely to lend to countries with which they have defense cooperation agreements and vice-versa. Moreover, they indicate that states use bilateral loans as a means of exercising hierarchical control, and therefore prefer to lend to countries that are less active in defense networks.

The relatively limited literature on bilateral loans has thus far largely focused on *which borrowers* receive loans, testing arguments about lenders’ motivations by examining the borrowers they choose. As a next step, some analyses have examined the volumes of finance extended by bilateral lenders, testing whether larger amounts of finance are extended to borrowers of particular importance to the creditor governments. Collectively, this research has highlighted the importance of economic and political ties between lenders and borrowers. Thus far, however, this research has not considered *the terms* on which state-to-state loans are extended.

What interest rates are borrowers charged and how long are the maturities of these loans? For debtor governments, these terms – which, as we demonstrate below, vary considerably across borrowers as well as across government lending agencies – make a big difference to the financial sustainability of borrowing. Moreover, providing generous loan terms can be an additional means for creditors to reward or encourage borrower behavior aligned with their interests. We develop expectations for the determinants of the pricing of bilateral loans

below.

3 Explaining variation in the terms of bilateral loans

We expect that governments exercise some choice over how they price bilateral loans, with more generous terms reflecting their interests toward borrowing governments. In this section, we offer three broad models of pricing that governments may use in setting the interest rates and maturities of their bilateral loans.

It is worth noting that agencies of lending governments operate within the constraints of global rules and norms shaping the pricing and allocation of loans. One important set of rules constraining the pricing of bilateral lending are the guidelines governing export finance. The OECD's Arrangement on Officially Supported Export Credits sets minimum interest rates for export finance, ensuring that export credit agencies do not attempt to compete with each other via lower interest rates. For countries party to the Arrangement, the agreement sets a *floor* on the interest rates that they can charge.⁴ Since 1997, these minimum interest rates have been explicitly market based, to reflect the credit risk of borrowing countries.

To remain competitive with other export credit agencies, countries are likely to price their export finance close to this floor. Yet they retain discretion to go above this floor; they therefore could discriminate among borrowers, reserving the most attractive financial terms for commercially or strategically important borrowers. Moreover, the Arrangement only applies to its members, leaving other countries free to price their export finance in line with their strategic and commercial objectives. This suggests that, as new bilateral creditors become part of the lending landscape, the incentive to compete over financing terms grows (Bunte, Gertz and Zeitz, 2021).

While the rules governing export credits have a market logic as their baseline, with interest rates set to reflect credit risk, other norms governing bilateral loans reflect a development

⁴Members of the Arrangement are Australia, Canada, the European Union, Japan, Korea, New Zealand, Norway, Switzerland, Turkey, the United Kingdom and the United States.

logic. Though bilateral loans do not meet the stringent development-focused requirements of funds classified as ODA, they may nonetheless be linked to development projects or be made with development aims.

Although there are no explicit international rules on pricing development finance, there is arguably a norm that poorer countries should have access to cheaper finance. National government agencies may follow the lead of the World Bank, which determines countries' eligibility for concessional finance based on income and private market access. Poorer countries are eligible for cheaper concessional finance from the International Development Agency (IDA), while richer countries with market access are eligible for more expensive finance from the International Bank for Reconstruction and Development (IBRD). The World Bank classifies countries as IDA- or IBRD-eligible using an internal methodology. National agencies may rely on the more approximate classification (also provided by the World Bank) of borrowers as low-income, lower-middle-income, or upper-middle-income, focusing their aid on low- and lower-middle-income borrowers (Dolan, 2017).

It is worth noting, however, that development norms are not necessarily binding, and likely weaker than those related to export credit. Indeed, one of the criticisms leveled against much of the project-based lending carried out as part of China's Belt and Road Initiative is that, at least on average, loans are priced closer to market than to concessional rates (Gelpern et al., 2021; Mihalyi and Trebesch, 2023). More generally, even if a development-oriented norm operates in the provision of loans, there is no consensus on *how far* below market concessional rates should be, nor is there a prohibition on providing cheaper finance to middle income countries. Hence, even if a development logic influences some bilateral lending, governments are likely to perceive significant discretion in the exact terms they set. We expect that creditor governments will use this discretion to achieve their commercial and geopolitical objectives.

3.1 Market model

If governments were to approach bilateral lending as private lenders do, the cost (and other terms) of sovereign credit will reflect their perceptions of default risk. Governments that are deemed less able (or less willing) to repay their obligations will face higher borrowing costs (Tomz and Wright, 2013). Borrowers deemed riskier will also be offered only shorter maturity debt; they may also need to borrow in foreign currencies, given the "original sin" associated with their low- and middle-income country status (Panizza, Hausmann and Eichengreen, 2005). At the extreme, a market model suggests credit rationing, in which the riskiest borrowers will be unable to access credit on any terms.

To the extent that bilateral creditors view their lending activities as a source of revenue, they may use the market model for pricing. Although their sensitivity to default risk might vary with the global capital flow cycle (Ballard-Rosa, Mosley and Wellhausen, 2021), governments would generally insist on higher interest rates from riskier borrowers, compensating them for a greater likelihood of default. We might expect that, when government agencies providing bilateral loans do not receive direct public subsidies, but instead must raise funds in capital markets or from deposits, they will tend toward market-oriented behavior.⁵

A market model also may be appealing when creditor governments, as well as those bureaucrats who staff their lending agencies, worry about the political and professional costs of defaults and restructurings. For instance, where governments face domestic political criticism about their lending to foreign governments (Schneider and Tobin, 2020), charging interest rates close to market rates may help to avoid charges of bailing out foreign nations. And, if agency staff face professional penalties when loans fail, a market model can demonstrate the use of due diligence in making lending decisions.

If governments apply a market model to pricing their bilateral loans, we expect to observe the following:

⁵Note that several public Chinese lenders have explained their reluctance to provide debt relief on the grounds of their "commercial" status, raising funds from deposits and capital markets (Chen, 2023).

H1: Bilateral loans to more creditworthy borrowers have more generous terms.

3.2 Development model

Government creditors are, however, likely different from private market lenders in important ways. Their considerations are likely to go beyond risk and return, and to include a range of other objectives. Indeed, when borrowing governments make choices among creditors, they often are expressing a preference over such objectives – sometimes preferring the project-specific expertise and concessional interest rates provided by multilateral development banks; other times avoiding the conditionality required by some official lenders; and at other times being drawn to the opacity afforded by some forms of credit (Brown, 2023; Bunte, 2019; Mosley and Rosendorff, 2023).

From the perspective of creditor governments, lending that is motivated by development objectives involves pricing in ways that are nearly opposite to a market-based model. That is, many of the attributes that would lead private sector creditors to charge higher interest rates – including low incomes per capita, low rates of economic growth, and significant debt burdens – will motivate development focused actors to offer cheaper finance. Governments employing such an approach would view bilateral loans as a complement to the ODA, offering borrowing countries access to resources that they often cannot get (or cannot afford to get) from private markets.

Setting the terms of bilateral finance in line with a development model may occur for several reasons. First, governments may view development abroad as serving their own strategic objectives. As Bermeo (2017) suggests with respect to foreign aid, addressing development concerns abroad may help donor governments to avoid externalities. Second, international development is a key part of the mandate of some government agencies responsible for extending loans. Especially when such agencies are given bureaucratic discretion, they may be freer to pursue development aims rather than the political objectives of the government in power (Arel-Bundock, Atkinson and Potter, 2015). Third, to the extent that most creditor

governments increasingly embrace a “development finance” norm, such a convergence would be reflected in lower interest rates and longer loan maturities for countries with greater development needs.

If governments are motivated by a development model when structuring their bilateral loans, we expect to observe the following:

***H2:** Bilateral loans to borrowers with greater development needs (proxied roughly by lower income) have more generous terms.*

3.3 Strategic interest model

A third motivating logic for official bilateral lenders is strategic interests. Governments may use lower interest rates and longer loan maturities to reward allies, extract policy changes, or protect commercial and other interests abroad. Strategic concerns – including military alliances, as well as a desire to keep certain governments in office and an interest in maintaining access to certain commodities – have long been recognized as important influences in the foreign aid realm (Bearce and Tirone, 2010; de Mesquita and Smith, 2007). For instance, aid donors are more likely to provide funds to recipient countries that are more geopolitically important, such as those that hold temporary seats on the UN Security Council (Vreeland and Dreher, 2014). Similarly, in the realm of international financial institutions, the strategic interests of major shareholder countries influence loan occurrence, loan amounts and the structure of lending packages (Clark and Dolan, 2021; Steinwand and Stone, 2008).

The pricing of bilateral loans for strategic purposes also would be consistent with previous findings that governments use strategic considerations in deciding which countries to lend to (Kinne and Bunte, 2018; Schneider and Tobin, 2020) and how much to lend them (Dreher et al., 2018). Along these lines, lenders may want to extend that greater financial flexibility and generosity to allies as a means of rewarding their support, especially if they expect that this frees up the borrower to spend more on policies the lender supports. This would be in keeping with findings that show lenders are more likely to lend to borrowers with whom they

have a defense cooperation agreement (Kinne and Bunte, 2018). More generally (perhaps as a form of unearned income, as in Morrison (2009)), borrowers with access to finance on more generous terms have greater fiscal space and lower debt servicing costs; they may be better able to reward their supporters and more likely to remain in office.

Creditor governments' strategic concerns may be commercial as well as military and diplomatic. Loans may be connected to the commercial interests of lenders directly, as in the case of export finance. They may also help achieve commercial objectives indirectly, as with loans that reinforce diplomatic ties between trading or investment partners. Lenders may extend more generous terms to countries that are important trading partners or major destinations for their foreign direct investment, where companies from the lender's country are reliant on good relations with the host government. To the extent that private financial institutions in the creditor country have holdings in the borrowing country, extending credit on generous terms also may keep those assets safer. The foreign aid literature finds that donors extend ODA based on competition for export markets (Barthel et al., 2014), while studies of IMF lending reveal the importance of bank exposure (Copelovitch, 2010).

If governments apply a strategic interest model to the pricing of their bilateral loans, we expect to observe the following:

***H3:** Bilateral loans to borrowers that are more important trading partners and foreign investment destinations have more generous terms.*

***H4:** Bilateral loans to borrowers that are more geopolitically aligned with the lender have more generous terms.*

4 Data and estimation

To assess empirical support for these various models of bilateral lending terms, we employ two different sources of loan-level data. The first, taken from the World Bank's Debtor Reporting System, covers loans from all bilateral lenders to low- and middle-income countries, giving a nearly global picture of the terms of bilateral lending. The second, from the U.S. Foreign

Credit Reporting System, contains bilateral loans extended by U.S. agencies, including those to high-income countries. Granular data on the terms of these loans allows us to test which countries receive loans on more generous terms. Before turning to the estimation and results, we describe these two data sources in greater detail and present a descriptive overview of the loans in each dataset.

4.1 Debtor Reporting System data

The World Bank’s Debtor Reporting System (DRS) exists to provide World Bank staff with accurate and timely data on countries’ debt exposure, providing an input into the IMF and World Bank’s debt sustainability analyses and the classification of borrowing countries. To assemble the data, the World Bank relies on government staff in low- and middle-income countries, usually in the Ministry of Finance, to report loan-level data on new commitments of any external debt that has a maturity of more than one year. Loans are only included if they are obligations of national, state or local governments, public entities in which the government holds a majority share, or private entities that have an explicit government guarantee (Tin Yu To and Agarwal, 2023). The World Bank checks the data for inconsistencies and triangulates the reported loan data with available data from creditors and the IMF, among others. Although some concerns remain about the under-reporting of some forms of debt (as evidenced by later revisions of debt statistics; see Horn, Mihalyi, Nickol and Sosa-Padilla (2023)), the DRS is viewed as relatively comprehensive in its coverage.

The debt data are published in aggregated form at the dyadic- and country-level in the World Bank’s International Debt Statistics, although the loan-level data is not readily publicly available. Through an Access to Information Request, the loan-level data from the Debtor Reporting System was made available on the condition that the information not be published in disaggregated form. The loan-level data covers 127 unique debtor countries. The full dataset covers all categories of loans and lenders, including bonds, financial institutions, multilateral lenders, and supplier credits provided directly by exporting firms. Given our

focus on bilateral lending, we retain only those loans identified as export credits (10,632) and other bilateral loans (17,229). For each loan, the dataset records information on the amount, currency, interest rate, maturity, and grace period of the loan.

The data reveal broad trends in the pricing of loans over time. In the empirical analysis below, we focus only on the years 1990-2020, given the different alignment of strategic interests during the Cold War era. However, in illustrating the trends in loan pricing here, we use the full data 1975-2020. Given the differences between OECD members and non-OECD countries, and China’s status as the world’s leading bilateral lender in the last decade, we report trends separately for OECD lenders, non-OECD lenders, and China.

Figure 1: Annual average interest rates on bilateral loans and export credits by lender and income category of borrower, 1975-2020

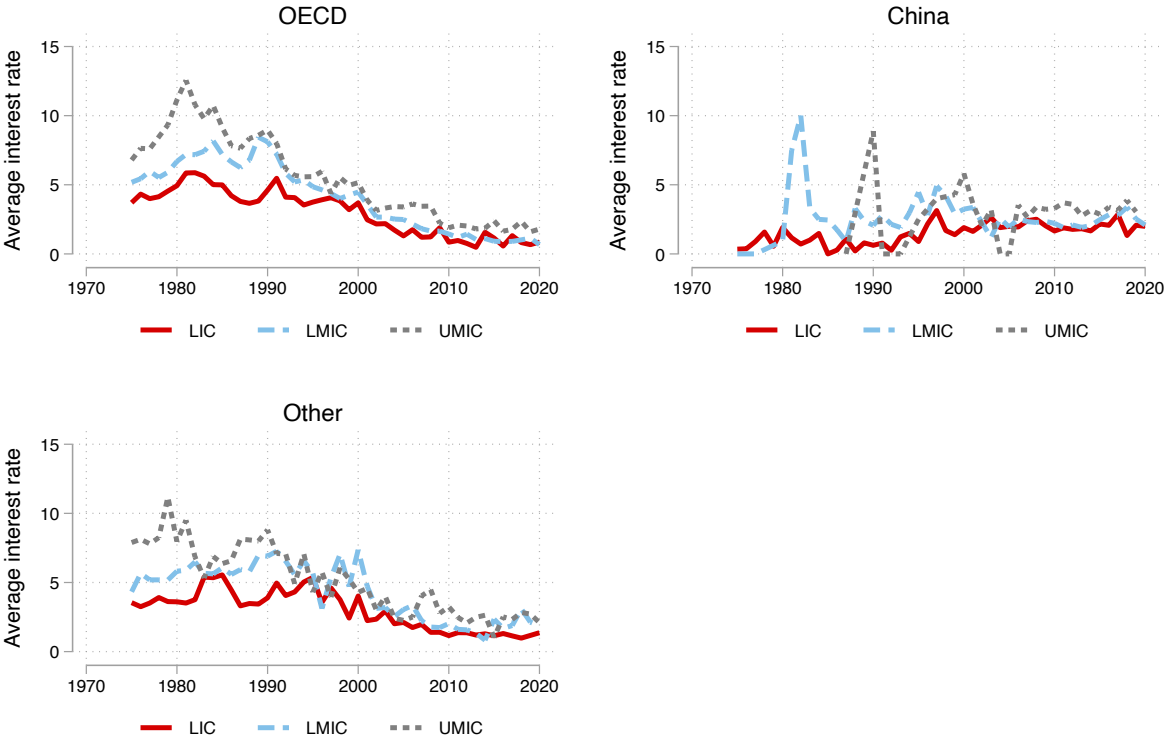
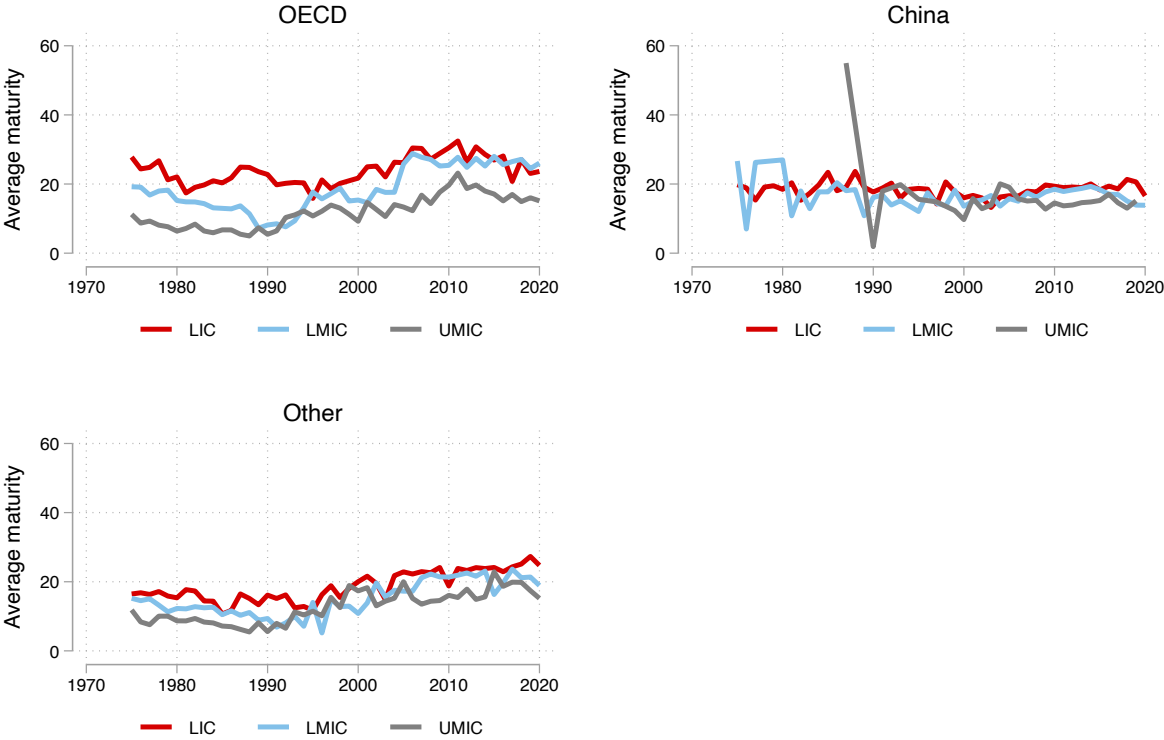


Figure 1 reports the average interest rates on bilateral loans, including export credits, with separate panels for type of lender and separate series by borrower income category. The

data show that, overall, interest rates on bilateral loans have declined considerably since the 1980s. In the 1980s and 1990s, when Chinese lending was still rare, the mean terms for Chinese loans are easily skewed by outlier loans. Over time, Chinese loans have converged on interest rates just slightly above those of OECD lenders. From 2010 to 2020, Chinese bilateral loans and export credits to all borrowers had an average interest rate of 2.39%, compared to 1.26% for loans from OECD countries. All lenders have consistently provided low-income countries with loans at lower interest rates, on average, than lower-middle income or upper-middle income countries.

Figure 2: Annual average maturity of bilateral loans and export credits by lender and income category of borrower, 1975-2020



Similar patterns hold for the maturity of loans, as reported in Figure 2. There has been a slight increase in the maturity length of loans over time, especially since a low point in the late 1980s and early 1990s, immediately following the Latin American debt crisis. With fewer

loans historically, China’s loans have consistently hovered around a 20-year maturity, with little variation over time. All lenders, including China and other non-OECD lenders, provide the longest maturities to low-income borrowers, though there are not large differences in the maturity of loans by borrower income category.

The trends in the data suggest some adherence to the development model of pricing loans, with the poorest category of borrowers exhibiting the lowest average interest rates and the longest average maturities. The temporal trends also reveal how global liquidity conditions shape the terms of bilateral lending, with a downward trend in interest rates on bilateral loans tracking the global decline in interest rates over this same time. However, the data also display considerable variation in the terms of loans, even within borrower income categories.

Figure 3: Annual median and interquartile ranges of interest rates on **OECD** bilateral loans and export credits, by income category of borrower, 1975-2020

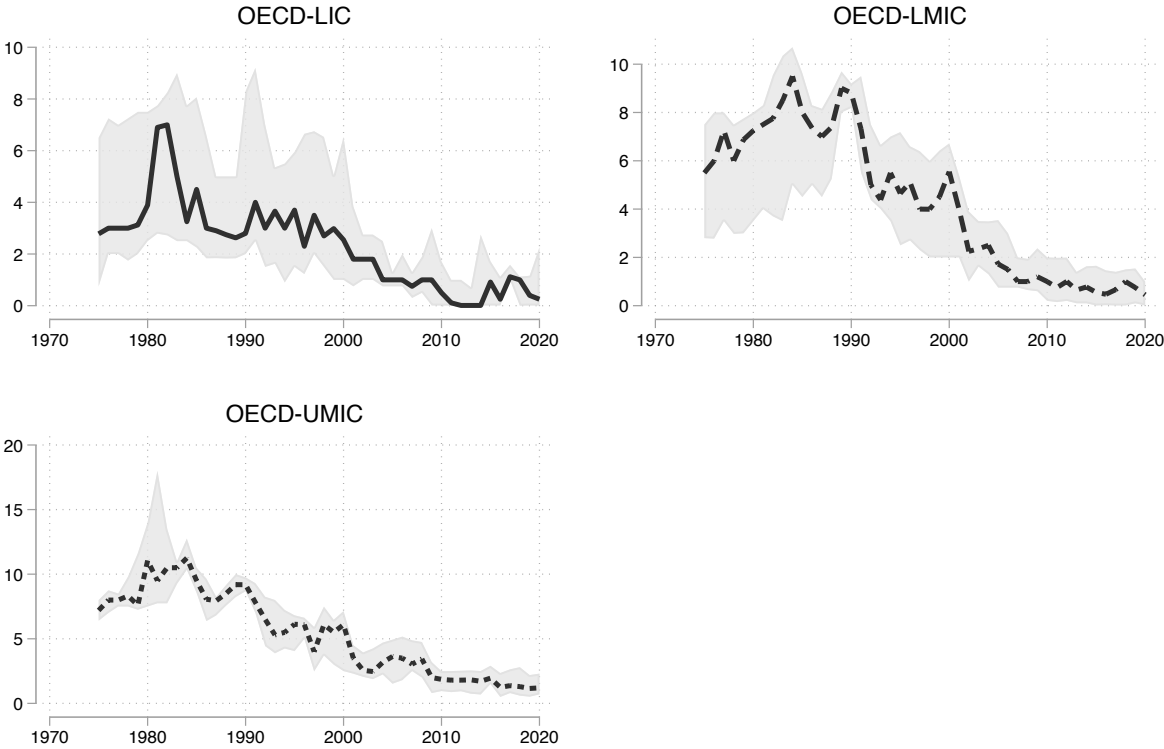


Figure 3 reports the annual median and inter-quartile ranges of interest rates on bilat-

eral loans from OECD countries, divided by income category of the borrower. For ease of interpretation, we only plot variation for the OECD, but there is similar variation among non-OECD lenders. The figure shows that despite the general downward trend in interest rates and differences across borrower income categories, there remains considerable variation in the interest rates paid by borrowing governments. In 2017, for example, OECD government loans to low-income borrowers had a median interest rate of 1.12%, but ranged from a low of 0% to a high of 4.5%. This variation points to the role of creditor discretion in the pricing of loans, which we seek to explain below.

4.1.1 Calculating concessionality

As Figures 1 and 2 show, both interest rates and maturity vary across loans. To capture variation in the generosity of loans that incorporates both the interest rate and the time to repayment, we calculate the *concessionality* of bilateral loans in the dataset. Concessionality refers to the generosity of the terms of a loan, usually expressed in terms of the “grant element.” The grant element is calculated as the difference between the face value of the loan and the net present value of the loan. This concept is used by the OECD, IMF, and World Bank as a way to classify lending and to estimate the debt burdens of debtor countries.

The calculation of the grant element incorporates the interest rate, maturity, and grace period of the loan as described in Equation 1 below, where r refers to the interest rate, m is the maturity in years, g is the grace period in years, n is the the number of repayments per year, assumed to be twice a year, and D is the discount rate, set at 5.00%.

$$\left(1 - \frac{\left(\frac{r}{n}\right)}{d}\right) * \left[1 - \left(\frac{\frac{1}{(1+d)^{n*g}} - \frac{1}{(1+d)^{n*m}}}{d * (n * m - n * g)}\right)\right], \text{ where } d = (1 + D)^{\frac{1}{n}} - 1 \quad (1)$$

This calculation requires two assumptions. The first is the number of repayments each year. The Debtor Reporting System does not indicate the number of annual repayments

per loan, so we follow others in setting this equivalent to two (Morris, Parks and Gardner, 2020). The second is the discount rate, which we set at 5.00%. This is in keeping with the IMF's approach, which has since 2013 applied a unified discount rate of 5.00% to calculate the concessionality of loans to low-income countries (IMF, 2013).

A grant, provided with no expectation of repayment, would have a grant element of 100%, while a loan provided at market rates has a grant element of 0%. Since the Debtor Reporting System records bilateral loans that are not foreign aid (grants), most are at lower levels of concessionality. In fact, a substantial share of loans in the dataset have a negative grant element according to the formula and assumptions above. Technically, this indicates loans are more expensive than market rates (Scott, 2017, 9). The negative value, however, may be a product of using a discount rate that is not always appropriate for prevailing global market conditions, especially in the earlier years in the period, where global interest rates had not converged. Nevertheless, since we are not interested in the grant element as a substantive quantity of interest, but rather the relative generosity of loans, we use the continuous measure of the grant element, including negative values, as the outcome measure in our empirical analysis below. Our findings are robust to instead estimating models predicting the interest rate and maturity separately.

The appeal of the Debtor Reporting System data is that it is global in scope, allowing us to probe the determinants of loan pricing for most possible dyads of borrowers and lenders. However, the DRS data does not identify the specific agency providing the loan, beyond distinguishing between export credits and other bilateral loans. Since different kinds of government agencies can extend bilateral loans intended for different purposes, this may obscure how loan pricing differs by type of lending agency. To get at this, we therefore also use data on the bilateral loans provided by one particular creditor country, the U.S.

4.2 U.S. Foreign Credit Reporting System data

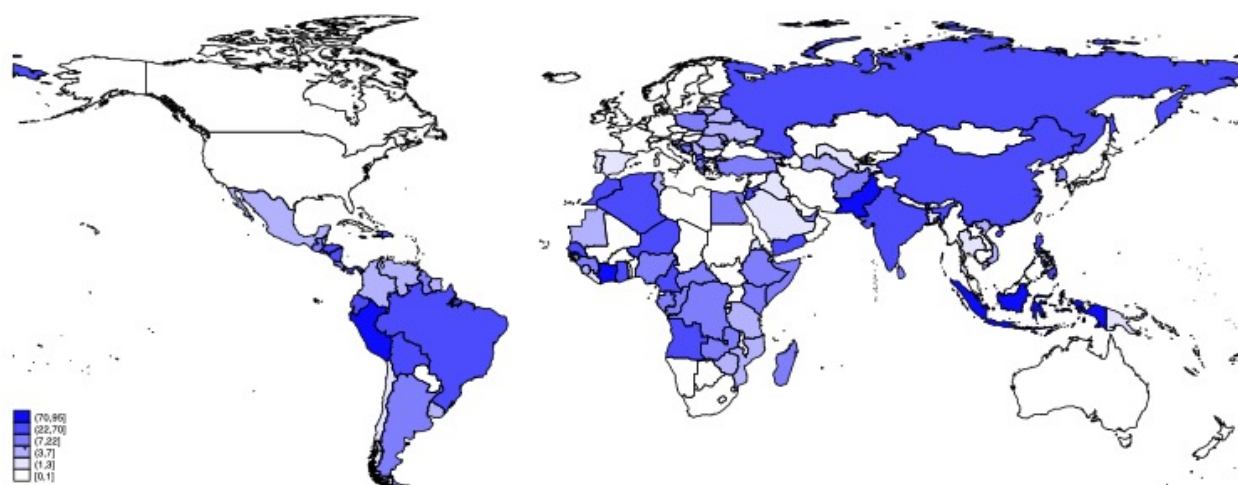
The Office of Global Economics and Debt within the U.S. Department of the Treasury publishes loan-by-loan data on direct loans to other countries provided by any U.S. agency.⁶ Agencies included in the Foreign Creditor Reporting System (FCRS) dataset are the Export-Import Bank, Treasury Financial Management Services, International Development Finance Corporation, Department of Defense (DOD), U.S. Agency for International Development (USAID), and the Department of Agriculture (USDA). The full dataset reports loans beginning in 1946, including loans extended to the United Kingdom and Germany after World War II. In total, there are over 4,500 unique loans in the dataset, of which 1,784 are from the period 1990-2022. For each loan, the FCRS dataset includes the original loan amount, the date the loan was signed, the date of maturity, whether the interest rate is floating or not, and the interest rate on the balance of the loan. The vast majority of loans in the dataset have fixed interest rates (82% of loans signed after 1990 have a fixed rate). Data on the grace period of loans is missing for all but a very small number of loans signed after 2000.

Loans by U.S. agencies are distributed around the world, as Figure 4 shows. Of countries that received loans from the U.S. in the period 1990-2022, the median number of loans was 7, with a small number of countries (including Pakistan, Indonesia, and Jamaica) receiving more than 70 loans during this time period.

As with bilateral loans reported in the DRS, for a nearly global set of borrowers, there is considerable variation in the pricing of U.S. loans. This variation is not wholly explained by either income category of the borrower or the creditor agency. Table 1 reports the number of loans and the mean and standard deviation of interest rates of loans in the FCRS dataset across creditor agency and borrower income category for the years 1990-2022. Looking first at the number of loans, the data show that most of the loans were provided by the Export-Import Bank, DOD, USAID, and USDA. The largest share of loans went to low-

⁶The data are published at this address: <https://fcrs.treasury.gov/fcrs/s/sovereign-lending-loan-by-loan>.

Figure 4: Total number of bilateral loans received from U.S. agencies, 1990-2022



and lower-middle-income borrowers. Examining the average interest rates in the first row for each creditor reveals that the Export-Import Bank and DOD charge higher interest rates than USAID and USDA. Average interest rates do not appear to be especially sensitive to income category, with interest rates for lower-middle-income countries very similar to those charged for low-income countries. The smaller number of loans to upper-middle-income and high-income countries make these averages less informative.

Notably, there is considerable variation in the interest rates charged, even within creditors and income categories, as shown in the standard deviations reported in the second row for each creditor. USDA, for example, charged an average interest rate of 3.86% on its loans to lower-middle-income countries, with a standard deviation of 1.93%, bringing some loans closer to market rates and making others extremely concessional. Our analysis below seeks to explain this additional variation in interest rates of U.S. bilateral loans, as well as their maturity.

Since the U.S. Foreign Credit Reporting System does not systematically record grace periods for loans, we are unable to calculate the concessionality for these loans in the same way we calculate concessionality for loans in the debtor reporting system dataset. In modeling U.S. bilateral loans below, we therefore estimate separate models predicting the interest rate and maturity of U.S. loans.

Table 1: Average interest rates, standard deviation of interest rates, and number of U.S. bilateral loans by U.S. creditor agency and borrower income category, 1990-2022

| Creditor agency | Borrower income category | | | | Total |
|-----------------|--------------------------|------|------|------|-------|
| | LIC | LMIC | UMIC | HIC | |
| ExIm | 5.53 | 5.61 | 4.88 | 4.33 | 5.44 |
| | 2.03 | 2.00 | 2.60 | 1.84 | 2.11 |
| | 307 | 223 | 78 | 22 | 630 |
| Treasury | . | 6.32 | . | . | 6.32 |
| | . | 1.27 | . | . | 1.27 |
| | 0 | 17 | 0 | 0 | 17 |
| US IDf | 3.67 | 3.34 | 3.00 | 4.65 | 3.64 |
| | 1.04 | 0.70 | 0.00 | 0.17 | 0.95 |
| | 23 | 7 | 4 | 4 | 38 |
| DOD | 6.06 | 6.67 | 8.33 | 6.77 | 6.51 |
| | 1.70 | 1.24 | 9.42 | 0.61 | 3.34 |
| | 116 | 76 | 22 | 3 | 217 |
| USAID | 3.50 | 3.62 | 2.48 | 5.52 | 3.50 |
| | 2.00 | 2.23 | 2.10 | 1.66 | 2.16 |
| | 174 | 296 | 42 | 4 | 516 |
| USDA | 3.10 | 3.86 | 2.85 | . | 3.54 |
| | 1.73 | 1.93 | 1.25 | . | 1.87 |
| | 130 | 210 | 15 | 0 | 355 |
| Total | 4.66 | 4.55 | 4.49 | 4.74 | 4.60 |
| | 2.23 | 2.27 | 4.43 | 1.76 | 2.52 |
| | 750 | 829 | 161 | 33 | 1773 |

4.3 Independent variables

To assess the correlates of loan terms, we use data both at the level of the borrower-year and the dyad-year. The market and development models of loan pricing imply different relationships between countries' level of development and loan pricing. We measure the development level simply as the borrower's *GDP per capita (logged)*.⁷ If lenders are applying a market model, borrowers with a higher GDP per capita will receive less concessional loans,

⁷Data on GDP per capita are taken from the World Development Indicators.

with lower interest rates, and longer maturities, while the opposite will be true if lenders are applying a development model. Creditors' assessment of the level of *democracy* in the borrowing country may matter under both the market and the development model, though here the predictions go in the same direction. Consistent with the "democratic advantage" claim, research suggests that private lenders extend more generous terms to democracies, though perhaps only under conditions of constrained liquidity (Beaulieu, Cox and Saiegh, 2012; Ballard-Rosa, Mosley and Wellhausen, 2021). And in the realm of foreign aid, bilateral donors tend to provide more aid in response to democratic liberalization (Reinsberg, 2015). By these logics, countries with higher levels of democracy should receive more concessional loan terms, as lenders expect a higher likelihood of repayment, as well as a more productive use of loan funds.⁸

Several of the variables we include are intended to assess the market model of loan pricing. First, an annual measure of the average *U.S. Federal funds rate* captures global liquidity.⁹ If bilateral lenders behave like private lenders, they will provide more loans on more generous terms when the Federal funds rate is low (Rey, 2016). Including this variable also accounts for the temporal trend observed in Figures 1 and 2 above, in which loans have become more generous over time, with the decline in global interest rates. Second, we include an indicator of the borrowing country's debt burden, measured as *public debt as a share of GDP*.¹⁰ If lenders are applying a market model and are sensitive to default risk, they should offer less concessional loans to more indebted borrowers, while lenders applying a development model may provide more concessional finance to such borrowers to avoid worsening their debt servicing burdens. Finally, we also use a measure of default risk taken directly from market assessments, the country's *credit rating*. Sovereign ratings communicate rating agencies' assessments of borrowers' creditworthiness. Under a market model, countries with better

⁸Democracy is measured using the continuous polyarchy measure from the Varieties of Democracy (VDem) data.

⁹Data on the U.S. Federal funds effective rate is taken from the St. Louis Fed.

¹⁰This data comes from Abbas et al. (2010) and the World Bank's World Development Indicators. Where one is missing, the other is used. If both are available, the average of the two is used.

credit ratings should receive more concessional finance. Since countries have to request (and pay for) a credit rating, not all borrowers are rated, so we only include this measure in an extension of our main model.¹¹

To capture lenders' strategic interests, we use a number of dyadic measures of commercial and geopolitical ties. First, we use a measure of *exports from the lender* to the borrower (in logged millions US\$).¹² Especially if lenders are using concessional finance to provide benefits to domestic exporting firms, we expect lenders to offer more concessional loans to countries that are major export destinations. While parties to the OECD Arrangement on Export Credits are required to price loans on market terms, they can still favor certain export destinations after accounting for market criteria such as level of development. Including this measure of trade restricts the years in the sample, since data is only available until 2014.

Second, we consider whether borrowers that are major investment destinations receive more favorable loan terms. High quality dyadic investment data is difficult to obtain, so we only include this measure in the US models, where data on *outward FDI stocks* is available from the US Bureau of Economic Analysis. Finally, to measure broader geopolitical alignment, we use data on countries' *ideological distance*, using data from Bailey, Strezhnev and Voeten (2016) estimating ideal point distances from countries' UNGA voting records.

In the dyadic models using data from the Debtor Reporting System, we also include a categorical indicator capturing whether the lender is an OECD member country, China, or another non-OECD country, to capture potential differences in lending behavior across these creditors. These three groups of creditors are bound, or not bound, by different rules on the pricing and allocation of loans. In the dyadic models, we also include a dummy variable for whether the loan is coded as an export credit, rather than a general bilateral loan, to account for the fact that these loans are likely to be at or closer to market terms. In the models of U.S. bilateral loans at the borrower-year level, we split the sample by the agency

¹¹Data on credit ratings are averaged across the "big three" credit rating agencies, Standard & Poor's, Fitch, and Moody's. When a country has a rating from only one agency, that rating is used; if a country has a rating from two agencies, we average the two.

¹²Data for this measure comes from the Correlates of War dyadic trade dataset.

providing the loan, focusing on the four agencies that provide the greatest number of loans: the Export-Import Bank, DOD, USAID, and USDA.

4.4 Estimation

We estimate regression models using ordinary least squares. We report results with and without borrower-level fixed effects. In the dyadic models, we prefer to include dummies for the type of lender (OECD, China, Other), rather than lender fixed effects, to retain variation across lenders. Temporal trends are largely accounted for with the control for the US Federal funds rate. In dyadic models, robust standard errors are clustered at the dyad level, while in models of U.S. lending robust standard errors are clustered at the borrower level.

5 Results

5.1 Dyadic data

Table 2 reports results on the concessionality of bilateral loans from the dyadic data in the World Bank’s DRS. The results show evidence of lenders using a strategic interest model in pricing their loans, as well as some evidence of development and market considerations. Beginning with the development and market models, Columns 1-3 suggest that higher income borrowers receive less concessional finance, which is in keeping with development norms that cheaper loans should be reserved for poorer countries. However, results in column 4, with the inclusion of borrower fixed effects, indicate that as individual borrowing countries become richer, they may access more concessional finance.

Additionally, there is limited evidence of a relationship between the concessionality of loans and the borrowing country’s regime type. With respect to market considerations driving the pricing of loans, the only consistent piece of evidence is that loans are cheaper when the Federal funds rate becomes lower, i.e. when global liquidity is more abundant. This result is robust across specifications in columns 1-4. This indicates that lenders are

following global market conditions in setting the terms of their loans.

However, when it comes to borrower attributes that might shape assessments of creditworthiness under the market model, there is little evidence that these are related to the terms of bilateral loans. Neither a country's level of public debt nor its credit rating are correlated with the concessionality of bilateral loans. On balance, we find limited evidence for H1 (the market model), with stronger evidence for H2 (the development model).

Moreover, the results indicate that strategic interest considerations are important for the pricing of bilateral loans, though only ideological alignment appears to matter as anticipated. Starting with lenders' commercial interests, the results in column 4 indicate that as a borrower imports higher amounts of a lender's exports, they actually receive *less* concessional finance. This is contrary to the expectation in H3. One possible interpretation is that rather than rewarding countries that are important export markets, lenders are instead using concessional finance to increase their access to markets that are not currently major export destinations.

When it comes to ideological alignment, the results are consistent and aligned with H4: countries that are more closely aligned with the lender receive more concessional finance. The results in column 4 imply that a borrower one standard deviation further away from the lender in their ideal point (a difference of 1 unit) received a loan grant element that is 11% smaller. This suggests lenders are setting loan terms based partly on their ideological affinity with borrowing countries, with more concessional terms provided to those countries that are more closely aligned.

The coefficients on the additional controls are as expected. Loans from non-OECD countries are less concessional than those of OECD lenders, as are Chinese bilateral loans, though only in the smaller sample of borrowing countries that have obtained a credit rating. Export credits are far less concessional than other bilateral loans.

Table 2: Dyadic models of concessionality of bilateral loans

| | (1) | (2) | (3) | (4) |
|-------------------------|-----------------------|-----------------------|-----------------------|----------------------|
| GDP per capita (logged) | -15.43*** (-6.38) | -18.63*** (-5.94) | -19.26*** (-5.18) | 31.14* (2.43) |
| Democracy | | 23.38* (2.15) | -7.980 (-0.68) | -7.863 (-0.35) |
| Fed funds rate | -14.55*** (-16.90) | -13.66*** (-13.32) | -11.13*** (-10.86) | -10.69*** (-8.25) |
| Public debt (% GDP) | | 0.00395 (0.20) | 0.184 (1.49) | 0.00381 (0.17) |
| Credit rating | | | 0.501 (0.50) | |
| Exports to borrower | | -2.282 (-1.71) | -0.434 (-0.33) | -3.426** (-2.97) |
| Ideological distance | | -7.255* (-2.35) | -9.334** (-2.82) | -11.10** (-2.85) |
| China | -6.585 (-1.19) | -8.173 (-1.06) | -24.82** (-2.82) | -13.64 (-1.75) |
| Other | -12.10 (-1.90) | -27.90*** (-3.35) | -23.46** (-3.13) | -39.77*** (-4.84) |
| Export credits | -84.14*** (-13.82) | -73.99*** (-11.49) | -57.80*** (-9.05) | -55.17*** (-8.81) |
| Observations | 25795 | 21680 | 9487 | 21680 |
| Borrower FE | No | No | No | Yes |

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

5.2 U.S. data

We report results from data on the interest rates of U.S. loans in Table 3 and maturity of these loans in Table 4. We split the sample according to the U.S. agency providing these loans, to account for differences in their mandates and pricing behavior. Estimated on a much smaller set of loans, these results are less consistent than those in the dyadic data, but

they point to similar patterns, with an importance of strategic interest measures, as well as development considerations.

Beginning with development considerations, there is some evidence that these shape the terms of U.S. loans, though more so for maturity than for interest rates. The results in Table 3 show interest rates are not very sensitive to a borrower's level of development, with US ExIm, which is the most market-oriented of U.S. lenders, providing loans on better terms to richer borrowers (see column 2). By contrast, results in Table 4 indicate that DoD, USAID, and USDA extend loans on shorter maturities to richer countries, in keeping with a development model (and in contrast to a market-based model).

Democracies appear to enjoy some benefits in interest rates from USDA, though this does not hold with inclusion of fixed effects (Table 3, columns 7-8), and ExIm maturities are surprisingly shorter for more democratic borrowers (Table 4, columns 1-2).

As with the dyadic data, there is little evidence of U.S. agencies pricing loans based on borrower creditworthiness, though global liquidity conditions do shape the interest rates attached to U.S. loans. Given the small number of borrowers that have credit ratings, we do not include a measure of borrowers' credit ratings in these models, but instead rely on the measure of indebtedness. Higher levels of public debt are not associated with higher interest rates from U.S. agencies, though DOD loans to more indebted borrowers have shorter maturities. For ExIm and DoD, a higher Federal funds rate is associated with higher interest rates, but this is not the case for USDA or USAID, once borrower characteristics are accounted for.

Table 3: Models of interest rates on US bilateral loans, by agency

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|-------------------------|---------------------|----------------------|---------------------|----------------------|---------------------|-------------------|---------------------|--------------------|
| | EXIM | EXIM | DOD | DOD | USAID | USAID | USAID | USAID |
| GDP per capita (logged) | -0.193 (0.206) | -2.740** (1.299) | 0.104 (0.244) | 5.048 (3.635) | -0.041 (0.325) | -2.836 (2.181) | 0.378 (0.372) | 0.352 (1.381) |
| Democracy | -0.338 (0.834) | -2.424 (2.537) | -0.662 (0.760) | -7.724 (4.661) | -0.370 (0.897) | -5.060 (3.379) | -2.714** (1.245) | -2.184 (1.666) |
| Fed funds rate | 0.430*** (0.075) | 0.363*** (0.080) | 0.417*** (0.122) | 0.189* (0.103) | 0.235** (0.091) | 0.122 (0.090) | 0.080 (0.114) | -0.018 (0.108) |
| Public debt (% GDP) | 0.003 (0.004) | -0.008 (0.009) | -0.001 (0.004) | 0.007 (0.006) | 0.005 (0.003) | -0.002 (0.002) | 0.001 (0.006) | -0.004 (0.005) |
| US exports (logged) | 0.557*** (0.122) | 0.485 (0.441) | -0.052 (0.127) | -1.177*** (0.366) | 0.139 (0.213) | -0.344 (0.696) | 0.438* (0.260) | -0.632* (0.365) |
| US FDI (logged) | -0.230** (0.103) | -0.368*** (0.127) | -0.068 (0.138) | 0.328 (0.463) | -0.144 (0.140) | 0.012 (0.388) | -0.086 (0.172) | -0.102 (0.233) |
| US ideal point distance | -0.162 (0.326) | -0.344 (0.556) | -0.111 (0.355) | 0.053 (0.825) | -0.866** (0.358) | -0.429 (0.651) | -0.446 (0.393) | -0.168 (0.642) |
| Observations | 509 | 509 | 173 | 173 | 453 | 453 | 243 | 243 |
| Borrower FE | No | Yes | No | Yes | No | Yes | No | Yes |

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4: Models of maturity of US bilateral loans, by agency

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|-------------------------|----------------------|---------------------|----------------------|---------------------|--------------------|---------------------|----------------------|-----------------------|
| | EXIM | EXIM | DOD | DOD | USAID | USAID | USAID | USA |
| GDP per capita (logged) | 0.547 (0.986) | 0.984 (3.851) | -1.314*** (0.468) | 4.604 (11.724) | -3.006* (1.779) | -9.150 (8.640) | -3.924*** (1.439) | -37.928*** (9.109) |
| Democracy | -7.268*** (2.455) | -5.940** (2.596) | 1.534 (3.398) | -5.944 (11.384) | -0.740 (5.324) | 10.186 (10.245) | 0.679 (3.963) | 11.730 (11.567) |
| Fed funds rate | 0.146 (0.294) | 0.284 (0.316) | 0.133 (0.358) | -0.177 (0.568) | -0.119 (0.523) | -0.200 (0.431) | 0.194 (0.483) | 0.862** (0.424) |
| Public debt (% GDP) | 0.007 (0.018) | -0.010 (0.023) | -0.035*** (0.011) | -0.026** (0.010) | 0.028 (0.026) | 0.033 (0.019) | 0.015 (0.015) | -0.029 (0.019) |
| US exports (logged) | -1.241* (0.653) | 1.029 (1.450) | 0.270 (0.488) | 0.832 (1.304) | 0.361 (1.207) | 1.586 (2.380) | -2.099** (0.889) | 3.881** (1.786) |
| US FDI (logged) | 0.373 (0.453) | 0.576* (0.314) | -1.444*** (0.416) | -1.841 (2.663) | -0.698 (0.790) | 0.075 (1.713) | 0.107 (0.550) | 0.634 (1.336) |
| US ideal point distance | -0.045 (0.970) | -0.012 (1.211) | 0.034 (1.083) | 0.237 (5.067) | -1.048 (1.712) | -5.836** (2.319) | 2.327* (1.236) | -4.262 (2.578) |
| Observations | 509 | 509 | 173 | 173 | 453 | 453 | 243 | 243 |
| Borrower FE | No | Yes | No | Yes | No | Yes | No | Yes |

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Across U.S. agencies, there is some evidence in keeping with our strategic interest expectations. In line with the dyadic results, we find that US ExIm charges higher interest rates and lower maturities to countries that are already major export markets for the US. However, ExIm also provides loans on more generous terms, with lower interest rates and longer maturities, to countries that are significant investment destinations for US firms. The other agencies' loan terms are somewhat less associated with commercial considerations, though USDA also provides loans at lower interest rates and longer maturities to borrowers that are more important export markets. The most consistent pattern of results for ideological alignment is for USAID, which provides loans at lower interest rates but shorter maturities to countries that are more ideologically distant from the U.S.

6 Conclusion

This paper examines the terms that creditor governments attach to their bilateral loans. Governments extend loans to other countries for multiple reasons, whether as development finance, to generate commercial benefits for domestic firms, or to reward and support allies. International rules and norms provide some restrictions on the interest rates and maturities that lenders attach to their loans, but governments nonetheless retain discretion over these pricing decisions. We demonstrate there is variation in the pricing of bilateral loans that is unexplained by the development needs and creditworthiness of borrowers. Moreover, our empirical analyses suggest that this variation can be explained by lenders' strategic interests. In dyadic data for a near global sample bilateral lenders, we find that governments extend loans on more concessional terms to borrowers with whom they are more ideologically aligned, all else equal. There is also evidence that lenders provide more concessional loans to countries that are less sizable export markets, perhaps to create deeper trading relations in the future. We triangulate these findings with data on the bilateral loans of U.S. agencies, which also exhibit considerable variation in the pricing of loans. Among this smaller sample of loans, results are noisier, but there is some evidence of loans priced to reflect U.S. commercial

considerations and ideological alignment with borrowers.

These findings speak to scholarship in international political economy on the politics of sovereign debt, especially the emerging literature on bilateral official lending. Research has emphasized that borrowing governments exercise *choice* in their borrowing, trading off the political and financial costs of different lenders (Cormier, 2022; Bunte, 2019; Mosley and Rosendorff, 2023). We highlight that political considerations not only shape to whom creditors lend, but also how they lend. Since the terms of loans, together with their volumes, have substantial implications for the affordability and sustainability of sovereign debt, the pricing of loans matters. Showing that borrowers that are more closely ideologically aligned with creditors can receive loans on more generous terms provides a richer understanding of the range of financing available to borrowing countries.

Our findings underscore the differences in financial costs associated with bilateral loans. While we find evidence that political considerations matter for loan pricing, we also show the importance of development norms and rules in bilateral loans; poorer countries tend to receive cheaper loans. This speaks to the impact of development norms beyond the context of foreign aid. Finally, our analysis highlights the benefits of detailed loan-level data, reinforcing the importance of debt transparency to improve accountability.

Our research is the first to look systematically at the pricing of bilateral loans. There are several areas for future research building on our findings. First, it would be useful to better understand the bureaucratic politics of government agencies involved in the provision of bilateral loans. How much legal and structural autonomy do agencies have to set the terms of their loans? When are foreign policy objectives explicitly included in agencies' mandates? What are the professional incentives of those working in these agencies, and how do they relate to the market, development and strategic models of loan pricing? Research on foreign aid has demonstrated that greater discretion for field workers can improve performance (Honig, 2019) and that bureaucratic autonomy allows aid agencies to prioritize needier recipients (Arel-Bundock, Atkinson and Potter, 2015). What do these dynamics look like for

bilateral lending?

Second, future research could examine how the pricing of bilateral loans impacts borrowers' debt accumulation and possible debt crises. Blackmon (2017) argues that much of the debt relief provided by the Paris Club in the 1990s and 2000s reflected the commercial considerations of G7 export credit agencies that had led to the accumulation of developing country debt. How do differences in the pricing of bilateral loans impact contemporary debt sustainability? And how might the composition of existing bilateral debt stocks affect creditors' willingness to renegotiate and restructure debt? Finally, future work should do more to incorporate borrowers' perspectives. How do borrowers consider the trade-offs in the financial costs of bilateral loans, especially if these vary based on political alignment?

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