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Civil Conflict and Cross-Border Lending: A Sectoral, Micro Lender-Level Analysis of Syndicated Loans

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ABSTRACT

This study examines empirically the impact of civil conflict on cross-border lending. Our sample covers 165 countries over the period 1984–2019 with loan data disaggregated at the economic sectoral level (primary, secondary and tertiary sectors), an analysis that is absent in existing literature. Our results indicate that cross-border lending to the primary sector is not significantly influenced by civil conflict, whereas cross-border lending to secondary and tertiary sectors is negatively impacted by the outbreak of civil conflict, leading to a decreased volume of loans or reversals of existing loans.

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Introduction

There is substantial evidence that civil conflict and violence have significant, negative economic consequences (Rother et al. 2016; Ouedraogo et al. 2022). Civil conflict can lead to deep economic recessions and damaged institutions and is often associated with high inflation, weakened fiscal and financial positions, trade disruption, and a decline in investor confidence (Rother et al. 2016). Previous studies (see, *inter alia*, Joshi and Quinn 2020; Li, Murshed, and Tanna 2017) find that civil conflict can significantly deter foreign investors and reduce the volume of inward foreign direct investment (FDI). However, less attention has been paid by existing literature to the effect of civil conflict on cross-border lending, one of the key components of cross-border capital flows (Lane and Milesi-Ferretti 2018).

Civil conflict can affect cross-border capital flows since foreign investors' preference is to avoid uncertainty (Cezar, Gigout, and Tripier 2020; Osgood and Simonelli 2020). Foreign investors are more sensitive to uncertainty compared to their domestic counterparts. Domestic investors usually have the advantage of superior information and local resources to mitigate uncertainty-related costs. On the other hand, foreign investors are burdened with higher costs related to monitoring the level of conflict in borrowing countries and higher costs related to levels of uncertainty-related costs such as political uncertainties (Erel, Liao, and Weisbach 2012; Julio and Yook 2016).

Motivated by the possibility that civil conflict can affect the flow of international financing, we investigate the association between civil conflict and cross-border lending using sectoral, micro lender-level data on cross-border syndicated loans. We consider the analysis at the lender-specific data level particularly useful when analyzing syndicated loans. This is because although the latter may be a way for some individual lenders to minimize their risk exposure for the lack of accurate information about the lending country or borrower firm, there may still be asymmetry of private

information across individual firms (lenders) that are members of the syndicate. Such informational asymmetries may make the calculation of individual risk tolerance (the amount of loss an individual lender is prepared to handle) different for each syndicate member, for any given level of expected benefit from the aggregate return on syndicate loans.

Availability of reliable and efficient sources of financing is paramount for economic development and the past three decades have witnessed a significant increase in cross-border lending activity, notwithstanding some fluctuations pertaining to periods characterized by financial crises particularly as they affect cross-border lending to developing and emerging market economies. The total amount of syndicated loans expanded dramatically from less than \$800 billion in 1990 to around \$2 trillion during the last several years (Gao and Jang 2021). At the global, macro-level, cross-border bank lending is also important as a result of it being one of the major financial channels through which stresses in the international financial system are transmitted across countries. The importance of investigating how cross-border lending is affected by civil conflict, therefore, using the available syndicated loan data, cannot be overstated. Almost three-quarters of the total cross-border lending to both developed and emerging countries comes in the form of syndicated loans (Doerr and Schaz 2021). Syndicates are groups of financial institutions that jointly supply large loans to an individual borrower (a firm or a sovereign country) under a single loan agreement (Cerutti, Hale, and Minoiu 2015). On the supply side, loan syndications help lenders circumvent balance sheet constraints and diminish risk concentration by limiting exposures to individual borrowers. Syndicated loans are favoured over other kinds of cross-border loans particularly by banks with lower levels of capital and they offer smaller financial institutions the opportunity to tap into the market access knowledge and other informational advantages of larger lenders in diversifying risks across countries and borrowers (Cerutti, Hale, and Minoiu 2015). On the demand side, a decline in cross-border lending leads to a deterioration in borrowing conditions, particularly for small firms. Bremus and Neugebauer (2018) find that in countries most negatively affected by declines in cross-border credit inflows, there is a higher probability of a rise in firms' external financing costs. They attribute this result to the interbank channel, which – they argue – plays a crucial role in transmitting shocks to the real sector across borders.

We build a dataset of annual sector-specific lender-level loan data for the years from 1984 to 2019. Barrell and Nahhas (2020) suggest that cross-border lending could be treated as an international service trade activity. Prompted by several previous international trade and foreign direct investment studies (see, e.g. Li, Murshed, and Tanna 2017; Álvarez et al. 2018), we classify loan data into sectoral levels, namely primary, secondary and tertiary sectors, and test whether the results are affected (or otherwise) by such sub-sectoral categories of loans.

The rationale underlying our categorization is intuitively plausible. The relationship between civil conflict and cross-border lending can be expected to depend on the borrowers' status in various industries when facing the onset of civil conflict. Hence, the effect may vary across different economic sectors. For example, investment in the primary sector (e.g. mineral, oil, and gas extraction industries) may be less prone to be affected by civil conflict as the borrowers' demand for credit is unlikely to be deterred as long as the security of productive infrastructure can be properly assured. However, capital-intensive investment in the secondary sector (i.e. manufacturing industries) has a high level of fixed costs, and borrowers in such sectors are vulnerable to violence and asset destruction. Borrowers in the tertiary sector, with a lower intensity of fixed capital or human capital base, may withdraw their investment and reduce the credit demand for cross-border loans during periods of conflict.

Our paper draws on two broad strands of research. The first is the wide literature on the determinants of cross-border lending (Fidrmuc and Hainz 2013; Barrell and Nahhas 2020; Biswas and Zhai 2021). The second strand of literature emphasizes the impact of civil conflict on international trade and FDI, which are important elements related to cross-border lending (Busse and Hefeker 2007; Driffield, Jones, and Crotty 2013; Li, Murshed, and Tanna 2017). In contrast to prior studies, our study contributes to the existing literature on the determinants of cross-border lending

by highlighting the effect of civil conflict rather than political uncertainty. As cross-border lending is one of the most important elements of the funding source of international trade and FDI, we extend the analysis on the conflict-FDI/trade nexus to cross-border lending. Also, based on the rationale discussed above, we emphasize the importance of sectoral disaggregated measures of cross-border lending and test the impact of civil conflict on different types of sector-specific cross-border syndicated loans.

Although our findings echo similar literature on sectoral differences in how FDI reacts to violence in host markets, the significant, novel contribution of our study is that syndicated bank lending across borders diminishes when civil conflict violence increases in borrowing countries, but only for manufacturing and services and not for primary industries. Our results prove to be robust to permutations based on a different (instrumental variables) estimation method that accounts for the possibility of endogeneity bias, and alternative measures of civil conflict and cross-border variables. Additionally, we consider how international syndicate loan flows aggregated across our dataset at the borrower level affect the credit demand-side, and we find consistent results.

Related Literature, Theory and Hypothesis Development

As anticipated in the introduction, our paper draws on two broad strands of research, the wide literature on the determinants of cross-border lending and studies on the impact of civil conflict on international trade and FDI (which are important elements related to cross-border lending). Prior studies have identified various institutional and regulatory factors that may influence cross-border lending. For example, Heuchemer, Kleimeier, and Sander (2009) test the determinants of cross-border lending using country-level data for Eurozone member countries from 1999 to 2006 and find that cultural differences and legal origin have an impact on cross-border lending. Fidrmuc and Hainz (2013) examine the effect of bank regulation harmonization on cross-border lending between Germany and Austria and find that German firms located in the border region have better access to cross-border credit if regulation differs. Barrell and Nahhas (2020) employ a gravity model and country-level data to test the impact of lender country factors on cross-border bank lending for 19 advanced countries. They find that lender countries with less competitive banking sectors do more cross-border bank lending. Gao and Jang (2021) analyse globally syndicated loans from 1995 to 2016 and suggest the structure of global syndicate lending is influenced by cross-country variations in capital regulations. Biswas and Zhai (2021) investigate cross-border syndicated loans in 153 countries from Q2 2003 to Q1 2019. Their empirical evidence suggests that lenders increase cross-border syndicated lending when lenders' domestic economic policy uncertainty is high.

Another strand of literature highlights the impact of civil conflict on international trade and FDI. Using data for 19 developing countries, Resnick (2001) shows that civil conflict along with higher levels of democracy exerts a negative influence on inward FDI. Also, Busse and Hefeker (2007) find that FDI is deterred by civil conflict using data for 83 developing countries from 1984 to 2003. Using firm-level data, Driffield, Jones, and Crotty (2013) also find supportive evidence that conflict, by increasing the risk of investments, has a deterring effect. However, Blanco (2012) finds no significant effect of civil conflict on FDI in Latin American countries. Lee and Chung (2022) analyze data for 3,479 foreign subsidiaries of multinational enterprises (MNEs) located in 11 countries over the period from 1991-2007 and find that MNEs' decision on whether they disinvest and exit the conflict-ridden countries dependent on their operational scope (i.e. natural resource-seeking strategy and the level of operational overlap with parent subsidiaries). Li, Murshed, and Tanna (2017) suggest that civil war (i.e. high intensity of civil conflict) has different effects on FDI inflows across sectors. Their results indicate that civil war does not have a significant effect on primary sector FDI inflows while it exerts a significant and reductive effect on FDI inflows to the secondary and tertiary sectors.

To illustrate the effect of civil conflict on cross-border lending, we use the framework proposed by Li, Murshed, and Tanna (2017). In their risk models, civil conflict can affect different economic sectors differently. For example, countries endowed with rich resources in

the primary sector tend to experience conflict, which is known as a resource curse (Collier and Hoeffler 2004; Fearon and Laitin 2003; Auty 2007). The rebel groups of the recent conflicts in African countries with rich natural resources engage in quasi-criminal activity through civil conflict to obtain benefits from resources, which increases the prize of takeover for the control of the country (Fearon and Laitin 2003). However, when the demand for primary commodities is high, the sector is more likely to attract natural resource-seeking foreign subsidiaries of MNEs along with financial support. Indeed, onsets of civil conflict increase the business risk and cost, while MNEs with natural resource-seeking strategies can benefit from the conflict (Witte et al. 2017). Such MNEs usually establish good relationships with local governments and political parties (Oh et al. 2020). When host countries have weak fiscal capacity during the conflict period, the governments often sell natural resources to MNEs for covering military expenditures and damage restoration costs. Also, sometimes MNEs are allowed to access natural resources controlled by rebels in exchange for funding the military actions of rebels (Lee and Chung 2022). Moreover, the capital-intensive nature of the primary sector results in high levels of initial investments for firms with natural resource-seeking strategies (Shapiro, Hobdari, and Oh 2018), which increases firms' sunk costs and therefore rises the potential exits costs and utility losses if they decide to exit (Bowman and Hurry 1993; Li, Murshed, and Tanna 2017).

Another important factor is that the production location of the primary commodity cannot be changed no matter whether there are onsets of civil conflict because primary sector operations are site-specific (Kobrin 1979). Therefore, the potential borrowers of cross-border loans in the primary sector appear to have stable revenues even during conflict periods. Given the fact that such borrowers generally have high revenues due to high prices of products (such as oil and minerals), lenders are willing to issue cross-border loans to firms located in conflict-ridden territories. Moreover, if a primary sector is the cause of conflict, a borrower country dependent on this sector will do anything to maintain this sector during the conflict, as it seeks to ensure food security, and if the demand for a primary commodity is high, this country's sector could still receive significant financial support.

On the basis of the above arguments, we propose the following hypothesis:

H1: *Cross-border lending in the primary sector is not affected by civil conflict.*

On contrary, in the secondary or tertiary sector, there are many footloose industries, such as textile, or firms with features of knowledge embodied in human capital and lower levels of fixed costs. In general, exit costs are not applied to such industries or firms (Li, Murshed, and Tanna 2017). Although some manufacturing firms are well integrated with the local economy, they have some location (relocation) options. Their preferences may be 'exit' and 'relocation' when facing onsets of civil conflict (Mihalache-O'Keef 2018). In other words, while in the case of primary commodity production 'space' does not change, the secondary and tertiary sectors see significant disruption with the population movements, which is the case in civil conflict (see, e.g. Williams and Carlson 2020). Especially labour-intensive firms in the secondary and tertiary sectors can be significantly disrupted by the population movement in a state of civil conflict. Population movement can spread civil conflict and increase the conflict intensity (Onyango 1998; Bartusevičius and Gleditsch 2019). The presence of refugees due to conflict and displaced populations can expand the social networks of the rebel group and bring negative externalities, which can increase the risk of triggering subsequent conflict (Salehyan and Gleditsch 2006). Taken together, the revenue of borrowers in the secondary and tertiary sectors can be largely influenced by conflict while business continuity appears to be less due to lower levels of exit costs. Consequently, lenders may not choose to issue loans to such borrowers. Therefore, our second hypothesis is specified as follows.

H2: *Civil conflict is negatively associated with the volume of cross-border lending in the secondary and tertiary sectors.*

Empirical Method, Data, and Variables

Empirical Method

We examine the relationship between cross-border lending and borrower countries' civil conflict while controlling for macroeconomic and institutional quality variables based on an unbalanced panel of annual data disaggregated at sector specific lender-level loans to borrowers' countries. To test the relationship, we employ the Least Squares Dummy Variable (LSDV) method, which entails a set of dummies to control for the lender, borrower country, and year fixed effects. The method applies standard errors double-clustered at lender and year level to account for cross-sectional and temporal correlation (Petersen 2009). The regression model is specified as follows:

$$cslending_{ibt} = a_0 + a_1 conflict_{bt} + a_2 Z_{bt} + \mu_b + \gamma_i + \sigma_t + \epsilon_{ibt} \quad (1)$$

where $cslending_{ibt}$ is the volume or numbers of cross-border lending of lender i to borrowers in country b and year t . $conflict_{bt}$ represents the variable measuring the intensity of civil conflict. Z_{bt} reflects a set of macroeconomic and institutional control variables; μ_b , γ_i and σ_t are scalars of borrower country, lender, and year fixed effect coefficients, respectively. ϵ_{ibt} is the error term.

Variables and Data

Dependent Variable

Our dependent variable is the natural logarithm of loan volumes of newly created loans (we also use the natural logarithm of loan counts in the robustness analysis) that are aggregated at the lender level. Our cross-border lending with loan data is drawn from the Dealscan database, which provides comprehensive, historical syndicated loan transaction information around the world. Data include loan facilities (tranches) between a borrower and either a syndicate of lenders or a single lender. In order to construct the measure of loan volume/counts at the annual lender level, we proceeded as per the steps outlined below:

- (i) Following previous studies (e.g. Biswas and Zhai 2021), we choose data for syndicated loans from the Dealscan database.
- (ii) We dropped all the loans granted to the financial service sector (SIC code between 6000 and 6999), due to the fact that these businesses are subject to stringent regulation, and therefore, their terms of borrowing may be considerably different from those of the other companies in the sample.
- (iii) We needed to calculate the share of the individual contribution of the lender in a loan facility. However, there is only 25% of loan data in the Dealscan database that report information on loan facility allocation. We use the exact reported loan portions of the individual lenders. For the rest of the loan data, we followed previous studies (e.g. Biswas and Zhai 2021; De Haas and Van Horen 2013) and allocated half of each loan to the arrangers' group and half to the participants' group. Then, we divided the loan equally within the two groups. In addition, in our robustness tests, we use another allocation that divides the loan equally among the syndicate lenders.
- (iv) As our interest centers on cross-border loans, we exclude purely domestic loans where the ultimate parent lender and borrower are located in the same country.
- (v) We sum up a lender's loan allocation or the number of loans during each year to each sector for each foreign borrower country.

Civil Conflict Variable

The main explanatory variable is civil conflict with data obtained from the Uppsala Conflict Data Program at Uppsala University and the Peace Research Institute in Oslo (www.prio.org), Armed Conflict Dataset v21.1 (Pettersson et al. 2021). The dataset includes year-country level information for both internal conflict (civil conflict) and internationalized internal conflict (civil conflict is intervened by other countries) and the conflict intensity with numbers of battle-related deaths. In order to capture the effect of the intensity of civil conflict, we adopt the coding approach suggested by Murshed (2010). Specifically, the variable of civil conflict is coded as 0 for no conflict; 1 if there is a minor civil conflict with 25-999 conflict-related deaths in a given year; 2 if the conflict lasts over one year while the number of conflict-related deaths is below 1,000 within one year; and 3 if there is a high-intensity conflict (or civil war) which has a record of more than 1,000 deaths within one year. Also, in our robustness test, following Li, Murshed, and Tanna (2017), we use alternative binary measures to capture the effect of civil war (i.e. high intensity of civil conflict, at least 1,000 battle deaths) using code 1 if there is an onset of civil war (more than 1,000 battle death) and 0 otherwise.

Control Variables

Following prior studies (see, among others, De Haas and Van Horen 2013; Cerutti, Hale, and Minoiu 2015), we include a set of control variables capturing the effect of macroeconomic and institutional factors.¹ We employ the natural logarithm of real GDP per capita (US dollars at constant prices in 2010) and annual GDP growth rates to account for cross countries' differences in living standards, economic development and economic growth. We include trade openness, to account for the effect of globalization and country-level reliance on trade, and an index of the real effective exchange rate, to capture international competitiveness across countries. A financial crisis dummy variable is also included in the regressions to control for macroeconomic turbulence.

Given the importance of institutions along with international capital inflows to civil conflict (Li, Murshed, and Tanna 2017), we add the following institutional variables: bureaucratic quality, control of corruption, democracy, and rule of law. The institutional data are drawn from the International Country Risk Guide (ICRG). The data are survey-based, with scores ranging from 0 to 4 for bureaucratic quality and 0 to 6 for the other institutional variables. A higher score indicates a higher quality of institutions. Not only is a good institutional environment essential to attracting international capital inflows (including cross-border lending), but it also can mitigate the adverse impact of a civil conflict on borrowers' sentiments.

Sample

After removing all the missing values of each variable, our sample comprises 79,660 observations and data for cross-border loans issued by 1,828 lenders to borrowers from 165 countries over the period 1984-2019. The distributions of loans by lenders and by borrower countries are shown in the Appendix (see Tables A2 and A3). We report the descriptive statistics for each variable in Table 1 and pairwise correlations between explanatory variables in Table A4 of the Appendix. It should be noted that there are high correlations among institutional quality variables. To avoid the potential multicollinearity problem, we only include a single institutional variable in one regression.

Empirical Results

Main Results

Table 2 reports the empirical results showing the impact of civil conflict alongside control variables on the different measures of cross-border lending to three economic sectors, namely primary sector (Panel A), secondary sector (Panel B), and tertiary sector (Panel C). To avoid the danger of omitted variables bias, we include all the macroeconomic variables and three sets of dummy variables (i.e.

Table 1. Summary statistics.

Variable	Obs.	Mean	Std. Dev.	Min	Max
Cross-border lending (USD Trillion)	79,660	399	2150	0	110000
Cross-border lending (in natural logarithms)	79,595	17.990	1.868	0	25.429
Number of deals	79,660	4.857	15.165	1	482
Number of deals (in natural logarithms)	79,660	0.797	0.967	0	6.178
Civil conflict	79,660	0.294	0.718	0	3
GDP per capita (USD)	76,829	32832.058	23108.628	194.873	196061.417
GDP per capita (in natural logarithms)	76,829	9.967	1.158	5.272	12.186
GDP growth (%)	76,549	3.302	3.236	−30.141	37.999
Effective exchange rate	75,950	100.355	19.512	32.883	476.633
Trade openness (% of GDP)	77,025	80.682	75.354	14.731	442.620
Financial crisis	79,660	0.151	0.358	0	1
Bureaucratic quality	76,380	3.325	0.858	0.167	4
Control of corruption	76,549	3.985	1.242	0.500	6
Democracy	76,287	5.025	1.427	0.042	6
Rule of law	76,556	4.922	1.143	1	6

borrower countries, year, and lender fixed effects) in each regression. Additionally, the inclusion of *individual* institutional variables prevents multicollinearity problems.

In Panel A of [Table 2](#), the results suggest that civil conflict does not exert any significant effect on cross-border lending in the primary sector. International loans for investment in the primary sector (such as oil, mining, and gas) are mainly attracted by the extraction of rich natural resources and driven by profits. Hence, it is plausible that such investments are unaffected by the onset of civil conflict in the borrower's country. The effective exchange rate has a positive and significant effect on cross-border lending, suggesting that international loans to the primary sector are determined primarily by the strength of the currency of the borrower's country. Interestingly, trade openness records a negative and significant value of the coefficient. In interpreting this result we should point out that although cross-border lending can be expected to play a vital role in facilitating trade-led growth and development, like some types of FDI flows, it is a priori difficult to anticipate its effect on cross-border lending, a task best left to empirical observation. Other control variables and institutional measures do not have any statistically significant influence on cross-border lending in the primary sector.

Panel B of [Table 2](#) displays the estimated results for the impact of civil conflict on cross-border lending in the secondary sector. Civil conflict is negatively associated with cross-border lending at the 1% significance level across all the columns. This suggests that cross-border lending in the secondary sector is sensitive to civil conflict and lenders tend to reduce the amount of the loans when the intensity of civil conflict increases. Additionally, the effective exchange rate and trade openness are significantly and positively associated with the dependent variable. The coefficient of bureaucratic quality records a negative and significant value which indicates that borrower's countries with better quality of bureaucrats have less cross-border lending in the secondary sector. This finding is consistent with that of Siddica and Angkur (2017) suggesting that countries having well-informed bureaucrats can negotiate with foreign lenders and are less prone to bend to the foreign lenders' demands and, therefore, go against the interest of the loan recipient countries. Democracy is found to have a negative and significant influence on the dependent variable, suggesting that financial organizations prefer to lend to countries with less democratic regimes.

Panel C of [Table 2](#) reports the estimated results for the relationship between civil conflict and tertiary sector cross-border lending. Civil conflict records negative and significant values of the coefficient with smaller magnitudes compared to those of the coefficient values of civil conflict shown in Panel B. It follows that the negative impact of civil conflict on tertiary sector cross-border lending is less than its negative influence on secondary sector cross-border lending. Additionally, both the effective exchange rate and trade openness are found to exert a positive and significant effect while GDP per capita is negatively and significantly associated with the dependent variable.

Table 2. Impact of civil conflict on cross-border lending.

	Panel A: Primary sector				Panel B: Secondary sector				Panel C: Tertiary sector			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Civil conflict	-0.048 (0.052)	-0.056 (0.051)	-0.063 (0.052)	-0.058 (0.053)	-0.235*** (0.055)	-0.234*** (0.054)	-0.256*** (0.052)	-0.253*** (0.063)	-0.132*** (0.040)	-0.130*** (0.040)	-0.137*** (0.043)	-0.104*** (0.039)
GDP per capita	0.165 (0.241)	0.197 (0.237)	0.248 (0.233)	0.208 (0.234)	0.138 (0.168)	0.126 (0.170)	0.108 (0.176)	0.108 (0.168)	-0.191* (0.108)	-0.213* (0.112)	-0.232** (0.106)	-0.198* (0.114)
GDP growth	-0.005 (0.008)	-0.004 (0.008)	-0.005 (0.008)	-0.003 (0.008)	0.003 (0.006)	0.002 (0.005)	0.002 (0.006)	0.002 (0.005)	-0.002 (0.006)	-0.002 (0.006)	-0.001 (0.006)	-0.001 (0.006)
Effective exchange rate	0.005*** (0.002)	0.004** (0.001)	0.003** (0.001)	0.004** (0.002)	0.005*** (0.001)	0.005*** (0.001)	0.005*** (0.001)	0.006*** (0.001)	0.005*** (0.002)	0.005*** (0.002)	0.005*** (0.002)	0.004** (0.002)
Trade openness	-0.004*** (0.001)	-0.004*** (0.001)	-0.004*** (0.001)	-0.004*** (0.001)	0.005*** (0.001)	0.006*** (0.001)	0.005*** (0.001)	0.006*** (0.001)	0.002* (0.001)	0.002* (0.001)	0.002* (0.001)	0.001 (0.001)
Financial crisis	0.024 (0.065)	0.022 (0.065)	0.008 (0.067)	0.022 (0.065)	-0.007 (0.068)	0.003 (0.068)	0.001 (0.068)	0.003 (0.067)	-0.030 (0.056)	-0.032 (0.056)	-0.033 (0.056)	-0.031 (0.055)
Bureaucratic quality	0.101 (0.102)				-0.204*** (0.073)				-0.175*** (0.043)			
Control of corruption		-0.031 (0.045)				0.003 (0.041)				0.027 (0.030)		
Democracy			-0.062 (0.046)				-0.119** (0.045)				-0.043 (0.032)	
Rule of law				-0.021 (0.071)				-0.092 (0.067)				0.133*** (0.038)
constant	16.540*** (1.733)	16.638*** (1.777)	16.357*** (1.717)	16.500*** (1.735)	13.703*** (1.381)	13.400*** (1.427)	13.886*** (1.471)	13.690*** (1.391)	14.660*** (0.940)	14.373*** (0.964)	14.761*** (0.868)	14.145*** (0.973)
Borrower country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lender FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	11303	11358	11316	11364	26920	26947	26812	26947	33968	34045	33957	34045
R2	0.502	0.502	0.504	0.502	0.513	0.513	0.514	0.513	0.478	0.477	0.478	0.478

Dependent variable, the natural logarithm of volume (dollar million amount), is at the annual lender level. Estimations are by LSDV. Robust standard errors clustered by lender and year are used and reported below estimates (in parentheses). All specifications include borrower country fixed-effects (FE), year FE, and lender FE. ***Statistical significance at 1% level (p-value<0.01). **Statistical significance at 5% level (p-value<0.05). *Statistical significance at 10% level (p-value<0.1).



Table 3. Robustness check on endogeneity using IV estimation.

	Panel A: Primary sector			Panel B: Secondary sector				Panel C: Tertiary sector				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Civil conflict	-0.010 (0.357)	-0.092 (0.059)	-0.075 (0.049)	-0.083 (0.053)	-0.242*** (0.048)	-0.253*** (0.052)	-0.301*** (0.056)	-0.256*** (0.058)	-0.146*** (0.046)	-0.152** (0.064)	-0.211*** (0.060)	-0.269*** (0.102)
GDP per capita (PPP)	-0.444 (1.448)	-0.425 (0.427)	-0.304 (0.377)	-0.522 (0.385)	0.816* (0.427)	0.802* (0.441)	0.780* (0.436)	0.812* (0.450)	-0.087 (0.283)	-0.272 (0.289)	-0.372 (0.288)	0.599 (0.581)
GDP growth	0.586 (1.358)	-0.035 (0.090)	-0.071 (0.093)	-0.058 (0.085)	0.041 (0.071)	0.037 (0.066)	0.026 (0.067)	0.031 (0.065)	0.026 (0.049)	0.115* (0.066)	0.119* (0.064)	-0.250 (0.159)
Effective exchange rate	0.009 (0.016)	0.006** (0.003)	0.007** (0.003)	0.005* (0.003)	0.010*** (0.003)	0.010*** (0.003)	0.010*** (0.003)	0.010*** (0.003)	0.009*** (0.003)	0.010*** (0.004)	0.010*** (0.004)	0.008 (0.006)
Trade openness	-0.061 (0.079)	-0.020*** (0.007)	-0.017** (0.008)	-0.019** (0.007)	0.009*** (0.003)	0.010*** (0.003)	0.010*** (0.003)	0.010*** (0.003)	0.002 (0.003)	0.001 (0.002)	0.001 (0.002)	0.003 (0.002)
Financial crisis	-0.469 (0.858)	-0.025 (0.093)	0.013 (0.104)	-0.035 (0.091)	0.029 (0.083)	0.036 (0.082)	0.017 (0.088)	0.032 (0.081)	-0.088 (0.071)	-0.014 (0.082)	-0.029 (0.082)	-0.311** (0.143)
Bureaucratic quality	-0.308 (1.368)				-0.347** (0.153)				-0.555*** (0.132)			
Control of corruption		0.052 (0.110)				-0.047 (0.064)				-0.083 (0.061)		
Democracy			0.183 (0.117)				-0.207* (0.118)				-0.278*** (0.095)	
Rule of law				0.301*** (0.089)				-0.003 (0.106)				0.271** (0.117)
Borrower country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lender FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	2497	2893	2893	2893	7633	7633	7623	7633	10680	9500	9498	7972
p-value of Hansen J test	0.581	0.217	0.318	0.249	0.954	0.886	0.965	0.987	0.092	0.884	0.875	0.864

Dependent variable, the natural logarithm of volume (dollar million amount), is at the annual lender level. Estimations are by IV with LSDV. Robust standard errors clustered by borrower country and lender are used and reported below estimates (in parentheses). All specifications include borrower country fixed-effects (FE), year FE, and lender FE. ***Statistical significance at 1% level (p-value<0.01). **Statistical significance at 5% level (p-value<0.05). *Statistical significance at 10% level (p-value<0.1).

mong institutional variables, bureaucratic quality negatively and significantly correlates to tertiary sector cross-border lending. There is a positive and significant association between rule of law and cross-border lending, suggesting that improving the legal environment and providing better property rights protection can effectively attract foreign loan capital into the tertiary sector.

Robustness Checks

An important robustness check to be undertaken entails dealing with the possibility of the presence of endogeneity bias. This is because some of the borrower country variables, like trade openness, are likely to be associated with unobserved factors that affect the dependent variable. Furthermore, these unobserved factors are also likely to be time varying, so accounting for borrower country time invariant effects does not by itself solve the problem. Instrumental variables (IV) estimation, therefore, is needed to account for the likely endogeneity bias. Following previous studies (see, e.g. Kim, Lin, and Suen 2013; Tanna, Li, and De Vita 2018), we use lagged values of trade openness and GDP, as well as legal origin as instruments. We re-cluster the standard errors at the borrower and lender level.² Also, we substitute the GDP measure using GDP at international prices converted by purchasing power parity (PPP) in the new estimations. Reassuringly, also the results of these robustness permutations, reported in Table 3, are broadly similar to the main results.

In order to further check the consistency of our main results, we³ conduct a set of robustness tests. First, we use alternative measures of the main explanatory variables and dependent variable. Specifically, we introduce a dummy to capture the effect of civil war as an alternative measure of civil conflict (since though

Our above estimations are based on bilateral multinational loans between borrower and lender countries. There is a possibility that the lending will be influenced by the relationship between the lender and borrowers' countries. Therefore, in Table A6 of the Appendix, we further include the interaction between lender and borrower country indicators. The coefficients of civil conflict remain negative and significant in secondary and tertiary sector cross-border lending, thus offering further reassurance as to the validity of our main results.

In addition, we examine the effect of civil conflict on the number of deals of cross-border lending. These results are shown in Table A7 of the Appendix. The results are essentially unchanged, with two sole exceptions: bureaucratic quality has a positive and significant influence on primary sector cross-border lending, and control of corruption has a positive and significant effect on secondary sector cross-border lending.

Further Analysis

As a further analytical extension, to investigate the credit demand-side effect, we consider how syndicated loan flows aggregate at the borrower level. To this end, we re-estimate loan volume regressions (Equation 1) where loan volume and counts are aggregated alternatively, i.e. loans from lender i in country l to the same borrower in country b in sector j and in year t are aggregated so that the analysis is at the borrower-year level. This procedure yields 166,474 sector-specific borrower-level loan observations (lending to primary, secondary and tertiary sectors) referring to loans issued to 31,631 borrowers in 165 borrower countries. The results of these permutations are shown in Tables 4 and A8 in the Appendix, and still, the findings are consistent with those reported above.

In summary, the results suggest that both secondary and tertiary sector cross-border lending are heavily affected by civil conflict, with the negative effect on cross-border lending being most pronounced in the secondary sector. In contrast, civil conflict does not have a significant impact on cross-border lending in the primary sector. Among the institutional variables, bureaucratic quality is negatively and significantly associated with non-primary sector cross-border lending, democracy negatively and significantly correlates with secondary sector cross-border lending, while rule of law exerts a positive and significant effect on tertiary sector cross-border lending. It should also be noted



Table 4. Further analysis using borrower-level loan volume.

	Panel A: Primary sector				Panel B: Secondary sector				Panel C: Tertiary sector			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Civil conflict	-0.041 (0.035)	-0.045 (0.035)	-0.048 (0.037)	-0.050 (0.037)	-0.151*** (0.053)	-0.162*** (0.057)	-0.184*** (0.048)	-0.141** (0.053)	-0.158*** (0.031)	-0.162*** (0.031)	-0.164*** (0.034)	-0.148*** (0.034)
GDP per capita	0.875** (0.399)	0.926** (0.403)	0.917** (0.402)	0.968** (0.406)	-0.273 (0.262)	-0.307 (0.262)	-0.292 (0.260)	-0.344 (0.264)	0.043 (0.259)	-0.077 (0.269)	-0.079 (0.269)	-0.119 (0.254)
GDP growth	-0.013 (0.011)	-0.011 (0.011)	-0.011 (0.011)	-0.01 (0.011)	-0.002 (0.008)	-0.006 (0.007)	-0.006 (0.007)	-0.005 (0.007)	-0.023** (0.009)	-0.022** (0.009)	-0.022** (0.009)	-0.021** (0.009)
Effective exchange rate	0.004** (0.002)	0.004** (0.002)	0.004* (0.002)	0.004** (0.002)	0.009*** (0.003)	0.009*** (0.003)	0.009*** (0.003)	0.008*** (0.003)	0.011*** (0.002)	0.012*** (0.002)	0.012*** (0.002)	0.010*** (0.002)
Trade openness	-0.002 (0.003)	-0.002 (0.003)	-0.001 (0.003)	-0.001 (0.003)	0.003 (0.002)	0.003 (0.002)	0.003 (0.002)	0.002 (0.002)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0 (0.001)
Financial crisis	-0.205 (0.151)	-0.196 (0.148)	-0.194 (0.154)	-0.189 (0.158)	-0.008 (0.067)	0.024 (0.076)	0.004 (0.070)	0.013 (0.064)	-0.01 (0.053)	0.006 (0.057)	0.009 (0.059)	0.014 (0.055)
Bureaucratic quality	-0.177 (0.174)				-0.381*** (0.117)				-0.340*** (0.103)			
Control of corruption		-0.083** (0.039)				0.048 (0.034)				-0.016 (0.039)		
Democracy			-0.010 (0.090)				-0.112* (0.056)				-0.001 (0.042)	
Rule of law				-0.062 (0.088)				0.126 (0.089)				0.124 (0.077)
constant	10.372** (3.916)	9.736** (3.924)	9.458** (3.584)	9.207** (3.916)	20.222*** (2.479)	18.958*** (2.489)	19.648*** (2.498)	18.986*** (2.560)	17.031*** (2.640)	16.986*** (2.706)	16.947*** (2.731)	16.808*** (2.594)
Borrower country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lender FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	14898	14938	14914	14940	57120	57133	57042	57133	76555	76602	76540	76602
R2	0.561	0.561	0.561	0.561	0.658	0.658	0.658	0.658	0.591	0.59	0.589	0.590

Dependent variable, the natural logarithm of volume (dollar million amount), is at the annual borrower level. Estimations are by LSDV. Robust standard errors clustered by borrower are used and reported below estimates (in parentheses). All specifications include borrower country fixed-effects (FE), year FE, and lender FE. ***Statistical significance at 1% level (p-value<0.01). **Statistical significance at 5% level (p-value<0.05). *Statistical significance at 10% level (p-value<0.1).

that, in all sectors, the main determinant appears to be competitiveness (represented by the effective exchange rate), a crucial factor in attracting cross-border lending.

Conclusion

It is widely recognized that civil conflict, especially in developing countries, triggers a set of economic and development problems including the prevention of poverty reduction and economic growth retardation (Li, Murshed, and Tanna 2017). In this study, we investigate the extent to which civil conflict deters cross-border loan capital into the borrower's countries. This kind of foreign loan capital augments the volume of international trade and investment in addition to providing a funding source for international businesses and enabling domestic firms to compete globally. This study also makes an indirect contribution to the liberal peace literature, with the negative consequences of civil conflict to cross-border lending emerging as an issue requiring attention particularly by policymakers in countries which heavily rely on foreign financing.

The volume of cross-border lending is associated with the borrower's revenue, cost, and business/investment risk. Prior studies (e.g. Li, Murshed, and Tanna 2017; Mihalache-O'Keef 2018) draw attention to the heterogeneity of different sectors as a factor that affects the prospects of profit under conditions of civil conflict. In accordance with these theoretical priors, in examining empirically the relationship between civil conflict and multinational lending, we disaggregated cross-border lending into primary, secondary, and tertiary sectors instead of lumping all forms of loan capital together. Using a large sample of multinational syndicated loans, we find that civil conflict in the borrower's country has a negative and significant impact on both secondary and tertiary sector cross-border lending. In contrast, civil conflict has no significant influence on cross-border lending in the primary sector.

Our findings suggest that the presence of civil conflict heavily affects cross-border lending, but, crucially, we also show that during civil conflict the flow of foreign credit varies markedly across economic sectors. Regarding primary sector cross-border lending, a more realist view prevails – the lender's interest is less likely to be affected by civil conflict due to borrowers' steady revenues. Thus civil conflict does not play a significant role in affecting the volume of cross-border lending. However, this is not the case for secondary and tertiary cross-border lending, where civil conflict inhibits the borrower's investment heavily and, consequently, decreases the lending volume. Such a negative impact is most pronounced in the secondary sector. Therefore, from the perspective of policymakers, success in attracting non-primary sector cross-border lending is dependent on the absence of civil conflict.

With the incessant growth of the secondary and tertiary sectors' share of GDP in both developing and developed countries, our findings alert governments worldwide to be particularly mindful of the detrimental effects of various forms of civil unrest on these two sectors of economic activity. The relative size of the secondary sector and particularly the tertiary sector is not only growing over time, in most developing and emerging economies is considerably larger than that observed historically in the now industrialized countries. Especially the tertiary sector, which is the fastest-growing sector in many large developing economies, can itself be a key driver of these countries' economic growth and a catalyst of economic recovery following civil conflicts. Hence, paradoxically, civil conflict would mostly harm the line of credit expected to flow to the sectors which, at those critical times, would benefit the most from cross-border lending.

This paper is subject to three main limitations, which provide promising avenues for future research. First, we examine the influence of civil conflict on cross-border lending. Subsequent research can further develop this research line and explore the effect of inter-state conflict on cross-border lending, although the mechanism of such a linkage is probably different from the civil conflict-loan nexus. Second, the model specification of the empirical analysis does not control for the effects of international commitments (i.e. investment or trade agreements). Third, with respect to the dependent variable measure we employed (the natural logarithm of loan volumes),

particularly for the primary sector, many observations whose loan value is zero had to be dropped, thus restricting our dataset of the primary sector to 11,303 observations. Future studies may attempt to alleviate this issue alongside introducing additional types of non-linearities in the functional form specified, for example, through the use of exponential regression analysis.

Note

1. Also see the summary of the definitions and data sources for each variable in [Table A1](#) of the Appendix.
2. As suggested by Cameron and Miller (2015), the multi-way clustering strategy entails clustering at progressively higher levels and stop clustering when the standard errors vary relatively little. Therefore, we cluster at both the borrower and lender levels for the robustness check.
3. Select findings from the robustness tests and an additional analysis have been relegated to the Appendix for reference (refer to [Tables A5-A8](#)) to save space.

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Data Availability Statement

The data that support the findings of this study are available from the corresponding author, C. Li, upon reasonable request.

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Table A1. Variable definitions and sources.

Variable	Description	Source
Log Cross-border lending	The natural logarithm of the dollar amount in millions that a lender lends in total to all borrowers in a country in each year.	DealScan and own calculation
Log Number of deals	the natural logarithm of the number of loans that a lender makes to all borrowers in a country each year.	DealScan and own calculation
Civil conflict	An index of civil conflict, ranging from 0 to 3, represents different intensities of conflict from low to high.	Uppsala Conflict Data Programme (UCDP)
Log GDP per capita	The natural logarithm of GDP per capita in constant price 2010.	World Development Indicator
GDP growth	Annual GDP growth rate	World Development Indicator
Effective Exchange rate	Real effective exchange rate (CPI-based)	Darvas (2012); Darvas (2021)
Trade openness	The ratio of imports plus exports to GDP.	World Development Indicator
Financial crisis dummy	Financial crisis dummy, which takes the value 1 in the year that a country is in financial crisis, 0 otherwise.	Reinhart et al. (2022)
Bureaucratic quality	An index ranging from 0 to 6, representing the level of Bureaucratic quality from low to high	International Country Risk Guide
Control of corruption	An index of corruption control, ranging from 0 to 6, represents the level (actual or potential) of corruption in various forms (excessive patronage, nepotism, job reservations) from high to low.	International Country Risk Guide
Democracy	An index ranging from 0 to 6, represents the level of democracy from low to high.	International Country Risk Guide
Rule of law	An index ranging from 0 to 5, represents the strength and impartiality of the legal system as well as the popular observance of the law from low to high.	International Country Risk Guide

Table A2. Distribution of lender country syndicate lending.

Country	Lending (USD Trillion)	Number of deals	Country	Lending (USD Trillion)	Number of deals
Andorra	35	9	Lebanon	1440	17
Argentina	7900	301	Liechtenstein	215	19
Australia	868000	11074	Luxembourg	122000	872
Austria	56400	1610	Malaysia	30800	671
Bahrain	101000	2070	Malta	150	4
Belgium	56100	2166	Mexico	3540	25
Bermuda	429	7	Netherlands	1280000	17676
Brazil	62300	555	Netherlands Antilles	26	4
British Virgin Islands	48	1	New Zealand	1020	5
Burundi	3210	31	Nigeria	66	3
Canada	3630000	45243	Norway	54500	1777
Chile	1090	44	Pakistan	368	27
China	705000	5890	Panama	9660	211
Colombia	1680	14	Peru	1540	32
Cyprus	1840	28	Philippines	1220	53
Czech Republic	179	18	Poland	1830	127
Denmark	333000	3505	Portugal	70000	1620
Egypt	18800	195	Qatar	23100	338
El Salvador	96	1	Romania	134	7
Finland	7520	275	Russia	6160	12
France	2410000	38374	Saudi Arabia	64100	767
Germany	5710000	52659	Singapore	383000	6445
Greece	19300	234	Slovenia	625	1
Hong Kong	67000	2176	South Africa	38700	552
Hungary	3160	68	Spain	510000	6300
Iceland	2360	81	Sweden	157000	1487
India	71700	1140	Switzerland	3120000	22435
Indonesia	1610	112	Taiwan	192000	8295
Ireland	283000	5589	Tanzania	360	6
Israel	48000	1392	Thailand	14000	399
Italy	321000	7643	Turkey	3030	59

(Continued)

Table A2. (Continued).

Country	Lending (USD Trillion)	Number of deals	Country	Lending (USD Trillion)	Number of deals
Japan	1460000	42024	USA	3870000	31340
Jordan	15400	461	United Arab Emirates	48300	690
Korea (South)	122000	2292	United Kingdom	6400000	56804
Kuwait	40200	526	Venezuela	7990	51

Table A3. Distribution of borrower country syndicate lending.

Country	Lending (USD Trillion)	Number of deals	Country	Lending (USD Trillion)	Number of deals
Albania	1030	7	Lithuania	3590	99
Algeria	7370	108	Luxembourg	358000	2698
Angola	30400	179	Macau	17700	341
Argentina	80200	1906	Macedonia	1040	10
Armenia	247	7	Madagascar	169	1
Australia	435000	8565	Malawi	212	3
Austria	93700	747	Malaysia	70300	1200
Azerbaijan	9720	105	Maldives	518	8
Bahamas	8280	105	Mali	2460	51
Bahrain	19300	339	Malta	7260	118
Bangladesh	4730	107	Mauritania	205	2
Barbados	6240	67	Mauritius	11000	198
Belarus	330	12	Mexico	291000	4461
Belgium	388000	2470	Moldova	228	2
Belize	55	8	Monaco	7160	89
Bermuda	165000	1906	Mongolia	4380	32
Bolivia	225	8	Montenegro	321	5
Bosnia and Herzegovina	470	8	Morocco	4570	260
Botswana	1620	10	Mozambique	24000	35
Brazil	249000	2596	Myanmar	578	15
British Virgin Islands	35000	620	Namibia	311	8
Brunei	631	10	Nepal	424	10
Bulgaria	20300	235	Netherlands	1160000	9326
Burundi	2800	52	Netherlands Antilles	1160	24
Cambodia	1160	12	New Zealand	141000	3537
Cameroon	4330	73	Nicaragua	150	1
Canada	1240000	13743	Nigeria	37000	337
Cayman Islands	31600	567	Norway	188000	2471
Chile	70600	1595	Oman	68700	765
China	132000	4302	Pakistan	15700	375
Colombia	31000	743	Palestine	217	5

(Continued)



Table A3. (Continued).

Country	Lending (USD Trillion)	Number of deals	Country	Lending (USD Trillion)	Number of deals
Congo	1190	21	Panama	15400	529
Costa Rica	1300	24	Papua New Guinea	6720	106
Croatia	28500	469	Paraguay	327	5
Cyprus	22000	313	Peru	21100	401
Czech Republic	43200	1000	Philippines	76200	1582
Denmark	193000	1068	Poland	66600	1176
Dominican Republic	2480	20	Portugal	79900	1115
Ecuador	2230	29	Qatar	71900	894
Egypt	53200	601	Romania	18300	355
El Salvador	1860	35	Russia	398000	2603
Equatorial Guinea	250	3	Rwanda	350	8
Eritrea	100	1	San Marino	68	2
Estonia	1500	71	Saudi Arabia	172000	937
Ethiopia	2480	15	Senegal	1130	27
Finland	260000	2310	Serbia	458	11
France	2020000	12677	Sierra Leone	415	3
Gabon	417	5	Singapore	285000	3900
Gambia	46	1	Slovakia	21400	551
Georgia	682	15	Slovenia	7310	212
Germany	1570000	9052	South Africa	96500	1284
Ghana	31000	380	Spain	708000	9270
Gibraltar	3960	15	Sri Lanka	2340	42
Greece	147000	1688	Sudan	484	3
Guatemala	1080	71	Suriname	13	1
Guinea	2010	23	Swaziland	142	2
Guyana	2150	16	Sweden	328000	3872
Honduras	760	12	Switzerland	921000	6642
Hong Kong	186000	6305	Syria	380	3
Hungary	55100	931	Taiwan	25700	1964
Iceland	30900	260	Tajikistan	63	1
India	127000	3279	Tanzania	4880	74
Indonesia	147000	4230	Thailand	66500	1997

(Continued)

Table A3. (Continued).

Country	Lending (USD Trillion)	Number of deals	Country	Lending (USD Trillion)	Number of deals
Iran	13200	193	Trinidad and Tobago	7880	99
Iraq	802	7	Tunisia	3730	112
Ireland	316000	2535	Turkey	114000	2301
Israel	61100	522	Turkmenistan	3080	21
Italy	825000	5567	USA	138000000	185650
Ivory Coast	5660	67	Uganda	2590	28
Jamaica	2710	21	Ukraine	24000	289
Japan	128000	1498	United Arab Emirates	254000	1652
Jordan	8040	75	United Kingdom	3220000	28938
Kazakhstan	34500	255	Uruguay	3690	25
Kenya	11600	98	Uzbekistan	3540	43
Korea (South)	83500	2879	Vanuatu	18	3
Kosovo	2300	19	Venezuela	19000	542
Kuwait	45400	374	Vietnam	37100	583
Laos	2610	54	Yemen	1940	8
Latvia	401	18	Yugoslavia	31	1
Lebanon	378	7	Zaire	905	6
Liberia	2350	80	Zambia	4590	119
Libya	84	6	Zimbabwe	2000	31
Liechtenstein	281	3			

Table A4. Correlation matrix.

	1	2	3	4	5	6	7	8	9	10
1. Civil conflict	1									
2. GDP per capita	-0.139***	1								
3. GDP growth	-0.019***	-0.246***	1							
4. Effective exchange rate	0.021***	-0.017***	-0.020***	1						
5. Trade openness	-0.207***	0.249***	0.082***	0.088***	1					
6. Financial crisis	0.114***	-0.200***	-0.053***	0.040***	-0.081***	1				
7. Bureaucratic quality	-0.124***	0.708***	-0.219***	-0.072***	0.065***	-0.203***	1			
8. Control of corruption	-0.226***	0.627***	-0.190***	-0.121***	0.090***	-0.198***	0.775***	1		
9. Democracy	-0.038***	0.455***	-0.293***	-0.210***	-0.328***	-0.061***	0.623***	0.542***	1	
10. Rule of law	-0.251***	0.615***	-0.085***	-0.032***	0.091***	-0.227***	0.702***	0.724***	0.394***	1

Notes: ***Statistical significance at 1% level (p-value<0.01). **Statistical significance at 5% level (p-value<0.05). *Statistical significance at 10% level (p-value<0.1).



Table A5. Robustness check using alternative measures of civil conflict and volume of cross-border lending.

	Panel A: Primary sector				Panel B: Secondary sector				Panel C: Tertiary sector			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Civil war	-0.003 (0.103)	-0.012 (0.100)	-0.033 (0.104)	-0.025 (0.103)	-0.500*** (0.097)	-0.497*** (0.099)	-0.555*** (0.093)	-0.545*** (0.110)	-0.264*** (0.095)	-0.263*** (0.094)	-0.277*** (0.100)	-0.209*** (0.094)
GDP per capita	0.271 (0.243)	0.304 (0.239)	0.353 (0.236)	0.330 (0.238)	0.050 (0.201)	0.029 (0.205)	0.007 (0.211)	0.012 (0.205)	-0.335*** (0.114)	-0.358*** (0.119)	-0.385*** (0.113)	-0.344*** (0.121)
GDP growth	-0.005 (0.008)	-0.003 (0.008)	-0.005 (0.008)	-0.003 (0.008)	-0.000 (0.007)	-0.002 (0.007)	-0.003 (0.007)	-0.003 (0.007)	-0.009 (0.006)	-0.009 (0.006)	-0.007 (0.006)	-0.008 (0.005)
Effective exchange rate	0.005*** (0.002)	0.004*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.008*** (0.001)	0.009*** (0.001)	0.009*** (0.001)	0.009*** (0.001)	0.008*** (0.002)	0.008*** (0.002)	0.008*** (0.002)	0.007*** (0.002)
Trade openness	-0.003*** (0.001)	-0.004*** (0.001)	-0.003*** (0.001)	-0.003*** (0.001)	0.005*** (0.001)	0.005*** (0.001)	0.005*** (0.001)	0.006*** (0.001)	0.002* (0.001)	0.002* (0.001)	0.002* (0.001)	0.002 (0.001)
Financial crisis	0.020 (0.058)	0.019 (0.059)	0.002 (0.059)	0.021 (0.059)	0.063 (0.065)	0.076 (0.066)	0.073 (0.065)	0.075 (0.065)	0.014 (0.062)	0.011 (0.063)	0.011 (0.062)	0.013 (0.061)
Bureaucratic quality	0.066 (0.119)				-0.287*** (0.070)				-0.201*** (0.050)			
Control of corruption		-0.053 (0.045)				-0.019 (0.041)				0.027 (0.031)		
Democracy			-0.085* (0.045)				-0.155*** (0.049)				-0.041 (0.035)	
Rule of law				-0.046 (0.064)				-0.117 (0.078)				0.142*** (0.040)
constant	16.221*** (1.743)	16.345*** (1.788)	16.073*** (1.749)	16.093*** (1.753)	14.675*** (1.637)	14.338*** (1.666)	14.908*** (1.730)	14.599*** (1.628)	16.335*** (1.040)	16.006*** (1.061)	16.449*** (0.958)	15.763*** (1.057)
Borrower country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lender FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	11303	11358	11316	11364	26920	26947	26812	26947	33968	34045	33957	34045
R2	0.508	0.508	0.510	0.508	0.508	0.507	0.508	0.507	0.477	0.476	0.477	0.477

See Note of Table 2. Dependent variable is the natural logarithm of volume of cross-border lending is based on an allocation rule where loan is equally allocated among the syndicate lenders.

Table A6. Robustness check using alternative dummies.

	Panel A: Primary sector			Panel B: Secondary sector			Panel C: Tertiary sector					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Civil conflict	-0.033 (0.052)	-0.037 (0.050)	-0.038 (0.052)	-0.043 (0.052)	-0.172*** (0.050)	-0.172*** (0.050)	-0.186*** (0.049)	-0.182*** (0.055)	-0.121*** (0.038)	-0.118*** (0.037)	-0.123*** (0.041)	-0.093** (0.038)
GDP per capita	0.133 (0.086)	0.168* (0.085)	0.155* (0.077)	0.179** (0.084)	0.273*** (0.054)	0.208*** (0.044)	0.273*** (0.044)	0.251*** (0.051)	0.259*** (0.031)	0.206*** (0.034)	0.249*** (0.032)	0.171*** (0.028)
GDP growth	-0.011 (0.009)	-0.010 (0.008)	-0.011 (0.008)	-0.009 (0.008)	0.002 (0.006)	0.001 (0.005)	0.000 (0.006)	0.001 (0.005)	-0.004 (0.013)	-0.004 (0.012)	-0.004 (0.012)	-0.003 (0.012)
Effective exchange rate	0.004** (0.002)	0.003** (0.001)	0.003** (0.001)	0.004** (0.002)	0.004*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.003 (0.002)	0.003 (0.002)	0.003 (0.002)	0.002 (0.002)
Trade openness	-0.003** (0.001)	-0.003*** (0.001)	-0.003** (0.001)	-0.003** (0.001)	0.002** (0.001)	0.002** (0.001)	0.002** (0.001)	0.002** (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.001 (0.001)
Financial crisis	0.036 (0.065)	0.039 (0.066)	0.030 (0.066)	0.041 (0.065)	-0.003 (0.068)	0.002 (0.068)	0.003 (0.067)	-0.000 (0.067)	-0.028 (0.077)	-0.026 (0.079)	-0.028 (0.080)	-0.020 (0.081)
Bureaucratic quality	-0.001 (0.077)				-0.093 (0.062)				-0.068 (0.047)			
Control of corruption		-0.055 (0.040)				0.038 (0.038)				0.051* (0.029)		
Democracy			-0.041 (0.043)				-0.079** (0.031)				-0.024 (0.028)	
Rule of law				-0.065 (0.058)				-0.046 (0.056)				0.124*** (0.033)
constant	17.054*** (0.872)	17.052*** (0.886)	17.105*** (0.893)	16.929*** (0.887)	11.228*** (0.383)	11.391*** (0.354)	11.275*** (0.332)	11.271*** (0.365)	8.663*** (0.323)	8.723*** (0.307)	8.681*** (0.333)	8.764*** (0.299)
Lender Country*Borrower Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lender FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	11303	11358	11316	11364	26920	26947	26812	26947	33968	34045	33957	34045
R2	0.543	0.543	0.544	0.543	0.552	0.552	0.553	0.552	0.502	0.502	0.502	0.502

See Note of Table 2. Dependent variable is the natural logarithm of volume of cross-border lending is based on an allocation rule where loan is equally allocated among the syndicate lenders.



Table A7. Robustness check using loan counts of cross-border lending.

	Panel A: Primary sector				Panel B: Secondary sector				Panel C: Tertiary sector			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Civil conflict	-0.024 (0.030)	-0.033 (0.030)	-0.038 (0.030)	-0.029 (0.029)	-0.154*** (0.035)	-0.153*** (0.035)	-0.164*** (0.034)	-0.151*** (0.037)	-0.096*** (0.034)	-0.096*** (0.033)	-0.103*** (0.034)	-0.088*** (0.034)
GDP per capita	0.047 (0.114)	0.068 (0.112)	0.079 (0.114)	0.056 (0.112)	0.199 (0.127)	0.194 (0.129)	0.184 (0.133)	0.199 (0.129)	-0.051 (0.069)	-0.042 (0.068)	-0.061 (0.070)	-0.047 (0.070)
GDP growth	0.010* (0.005)	0.009 (0.005)	0.008 (0.005)	0.009 (0.005)	0.009* (0.005)	0.008* (0.005)	0.008 (0.005)	0.008 (0.005)	0.009* (0.005)	0.008* (0.004)	0.009* (0.005)	0.009* (0.005)
Effective exchange rate	0.003*** (0.001)	0.002*** (0.001)	0.002*** (0.001)	0.002*** (0.001)	0.002** (0.001)	0.002** (0.001)	0.002** (0.001)	0.002** (0.001)	0.002*** (0.001)	0.002*** (0.001)	0.003*** (0.001)	0.002** (0.001)
Trade openness	-0.000 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.000 (0.001)	0.002*** (0.001)	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.001)	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)
Financial crisis	0.089** (0.037)	0.080** (0.039)	0.071* (0.040)	0.078* (0.039)	-0.049 (0.037)	-0.045 (0.038)	-0.045 (0.039)	-0.045 (0.038)	0.025 (0.029)	0.026 (0.029)	0.025 (0.030)	0.026 (0.030)
Bureaucratic quality	0.128** (0.061)				-0.091* (0.046)				-0.038 (0.029)			
Control of corruption		-0.001 (0.020)				-0.019 (0.024)				0.044** (0.020)		
Democracy			-0.050** (0.024)				-0.059*** (0.021)				-0.035** (0.014)	
Rule of law				0.021 (0.034)				0.008 (0.031)				0.041 (0.031)
constant	-2.414*** (0.829)	-2.324*** (0.833)	-2.246** (0.830)	-2.302*** (0.815)	-3.666*** (1.028)	-3.749*** (1.019)	-3.547*** (1.050)	-3.847*** (1.026)	-2.804*** (0.518)	-3.068*** (0.515)	-2.662*** (0.536)	-2.959*** (0.533)
Borrower country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lender FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	11313	11368	11326	11374	26937	26964	26829	26964	34002	34079	33991	34079
R2	0.322	0.320	0.321	0.321	0.349	0.349	0.349	0.349	0.355	0.355	0.355	0.355

See Note of Table 2. Dependent variable is the natural logarithm of loan counts at the annual lender level.



Table A8. Further analysis of impact of civil conflict on loan counts data clustered at borrower level.

	Panel A: Primary sector				Panel B: Secondary sector				Panel C: Tertiary sector			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Civil conflict	-0.022 (0.052)	-0.027 (0.051)	-0.040 (0.062)	-0.021 (0.050)	-0.122*** (0.044)	-0.113** (0.045)	-0.129*** (0.044)	-0.128*** (0.045)	-0.123*** (0.045)	-0.125*** (0.044)	-0.132*** (0.048)	-0.117*** (0.047)
GDP per capita	2.165** (1.037)	2.156** (1.035)	2.164** (1.037)	2.086** (1.000)	0.656** (0.293)	0.640** (0.293)	0.660** (0.294)	0.671** (0.293)	0.939** (0.415)	0.958** (0.398)	0.927** (0.407)	0.927** (0.415)
GDP growth	0.000 (0.016)	-0.001 (0.016)	-0.003 (0.015)	-0.003 (0.015)	0.005 (0.012)	0.007 (0.012)	0.004 (0.012)	0.005 (0.012)	-0.002 (0.013)	-0.003 (0.012)	-0.002 (0.012)	-0.002 (0.013)
Effective exchange rate	0.000 (0.004)	0.000 (0.004)	0.000 (0.003)	-0.000 (0.004)	0.002 (0.002)	0.003 (0.002)	0.002 (0.002)	0.002 (0.002)	-0.002 (0.003)	-0.002 (0.003)	-0.002 (0.003)	-0.002 (0.003)
Trade openness	0.002 (0.007)	0.002 (0.007)	0.001 (0.007)	0.001 (0.007)	0.002 (0.002)	0.002 (0.002)	0.002 (0.002)	0.002 (0.002)	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.002)
Financial crisis	0.128 (0.171)	0.131 (0.170)	0.103 (0.171)	0.122 (0.162)	-0.199** (0.093)	-0.217** (0.085)	-0.199** (0.088)	-0.200** (0.091)	0.086 (0.141)	0.089 (0.138)	0.082 (0.140)	0.087 (0.139)
Bureaucratic quality	0.047 (0.162)				0.037 (0.146)				0.028 (0.125)			
Control of corruption		0.092 (0.085)				-0.112* (0.062)				0.026 (0.075)		
Democracy			-0.075 (0.128)				-0.033 (0.064)				-0.040 (0.072)	
Rule of law				0.100 (0.099)				-0.047 (0.065)				0.048 (0.100)
constant	-18.217* (10.050)	-18.384* (10.078)	-17.565* (10.273)	-17.716* (9.743)	-5.707* (2.897)	-4.923 (2.970)	-5.416* (2.932)	-5.514* (2.875)	-6.718* (3.965)	-6.910* (3.791)	-6.259 (3.898)	-6.693* (3.950)
Borrower country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Borrower FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	14904	14944	14920	14946	57145	57158	57067	57158	76595	76642	76580	76642
R2	0.195	0.195	0.195	0.195	0.214	0.214	0.214	0.214	0.175	0.175	0.175	0.175

See Note of Table 4. Dependent variable, the natural logarithm of loan counts, is at the annual borrower level.