The Real Effects of Financial Protectionism*

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Abstract

This paper analyzes the effects of government support of banks on European financial integration and firm outcomes using data on syndicated lending. Results show that banks increase their home bias in lending by 24.6 %, after receiving government support. In turn, discriminated foreign firms can only imperfectly substitute this fall in lending by switching banks or issuing corporate bonds. Thus, the negative loan supply effect translates into lower sales and employment growth for foreign firms. In addition, government support distorts credit allocation in the home market by shifting lending to larger, safer and less innovative firms. Moreover, I document that politicians gain influence over banks by transferring control rights to the government as part of the support scheme. These results suggest that locating bank resolution within the European Banking Union at the national level discourages international economic activity, distorts credit towards less productive firms and harms growth.

Keywords: bank bailouts, financial protectionism, cross-border bank flows, syndicated loan market, real effects, European Banking Union.

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1 Introduction

The collapse of Lehman Brothers in 2008 and the subsequent euro-area crisis were followed by a sharp decline in banking integration. Throughout Europe, national policy makers stepped up to help their ailing banks with unprecedented government support. In spite of these attempts to stabilize the banking sector in order to prop up the economy, Europe is looking back on a decade of low growth, low investment, a slow recovery to jobs and cross-border bank flows on the decline.[1]

In this paper, I provide new evidence on financial protectionism and its real effects on firms using data on almost the entire European banking sector. I define financial protectionism as a change in the preferences of domestic banks, induced by government support that leads them to discriminate against foreign firms as proposed by Rose and Wieladek (2014). To do this, I extend their UK setting to all 28 EU countries capturing more than 500 banks. Moreover, I use bank-firm relationships to test for the real effects of the credit distortion caused by financial protectionism.

I find that banks increase their home bias through a contraction of foreign loans, after receiving a bailout from their home government. In particular, banks increase their home bias by 24.6 % following a bailout. On the intensive margin, bailout banks increase the lending volume to home borrowers by 30.4 % relative to foreign borrowers, compared to non-bailout banks. This suggests that banks engage in financial protectionism. In return for rescuing a bank, governments seem to persuade banks to redirect loan supply towards the home market. This lower cross-border loan supply has significant real effects on the performance of foreign firms. Firms at the 90^{th} percentile in terms of dependence on foreign banks affected by a bailout have 6.5 % lower loan growth, relative to firms at the 10^{th} percentile. As firms are not able to substitute this reduced access to cross-border loans with other forms of funding, this translates into weaker sales (-3.5 %) and employment (-3 %) growth. In contrast, having a stronger relationship with home banks affected by a bailout has no significant effect on average loan growth or firm performance. Moreover, I document that government support for banks distorts credit allocation by providing more lending to larger, safer and less innovative firms in the protected home market. These findings suggest that government support for banks has

[1]For evidence on the decline of cross-border bank flows see Cerutti and Claessens (2016); Bremus and Fratzscher (2015); Bussière, Schmidt and Valla (2016); Emter, Schmitz and Tirpák (2016); European Central Bank (2017)

discouraged international economic activity, distorted credit towards less productive firms and harmed both growth and employment.

The data span from 2000 through 2015, capturing 66 banks that received government support. I apply a time-varying ownership correction of more than 2,100 bank subsidiaries to aggregate lending at the bank holding level.[2] This data captures reallocation of credit across countries through subsidaries using the internal capital market of the bank holding entity. Moreover, I add balance sheet data for both firms and banks, by merging the firm-bank relationship data in Dealscan with Compustat and Bankscope. This information in combination with the granularity of the data allows overcoming problems on identification common to the literature on identifying loan supply.

The first identification challenge to establishing loan supply effects is to address firm heterogeneity. The concern is that changes in firm's demand for loans over time may bias the results on bank lending. While this issue cannot be addressed with with aggregated data, disaggregated data allows to overcome this. I proceed in three steps to absorb loan demand. First, I construct a bank-borrower country panel that allows for inclusion of borrower-country-time fixed effects to absorb time-varying changes in loan demand in each country.[3] Second, I move to the firm level where I include firm country-industry-time fixed effects. I use firm fixed effects to base inference on the within firm variation and additionally control for size, performance, leverage and liquidity to capture time-varying firm heterogeneity. Third, I move to the more granular bank-firm level to employ firm-time fixed effects. By comparing the lending behavior of bailout and non-bailout banks to the same borrower, I address the concern that differences in loan demand biases the results on bank lending. The negative effect on foreign lending by bailout banks hence reflects loan supply.

The second identification challenge is a likely selection bias into bailout and non-bailout banks. I address selection bias into bailout and non-bailout banks by implementing propensity score matching on bank observables. After matching bailout and non-bailout banks along their total assets, leverage, capital ratio, liquidity risk, non-performing loans, globalness and political connections – bailouts continue to be associated with a sizeable increase in home bias.

An alternative explanation is that the reduction in foreign lending following a bailout

[2]I hand-construct the time-varying ownership aggregation as in Schwert (2018).
[3]This specification follows the research design in Giannetti and Laeven (2012)

merely reflects a flight home effect common to all foreign banks (De Haas and Van Horen, 2013). Indeed, I find evidence on a flight home effect across foreign banks. However, the cross-border loan retrenchment by foreign bailout banks is twice as strong as for foreign non-bailout banks. While this supports the findings in Giannetti and Laeven (2012), it implies that the flight home effect cannot fully explain the observed contraction in cross-border lending.

I provide evidence that the mechanism of financial protectionism operates through a transfer of control rights from bank to the government. Results show that preferential lending to home borrowers is strongest when the recapitalization comes in conjunction with a nationalization of ex-ante politically unconnected banks. This suggests that politicians gain influence over banks by transferring control rights to the government as part of the bailout.[4]

discussion on retrenchment in financial integration since the global financial crisis

This paper contributes to the discussion on the drivers of financial disintegration and the ongoing policy debate on designing the European Banking Union.[5] The results point to the importance of a consistent framework for bank resolution and bank supervision within an economic union. Bank resolution at the national level leads to pro-cyclical banking integration that harms financial stability. In this framework, national policymakers are incentivized to persuade their banks to protect the local economy causing a welfare loss through the destruction of cross-border bank-firm relationships. Importantly, the cross-border bank retrenchment associated with financial protectionism leads to a capital misallocation that harms both growth and employment across Europe.

[4]The importance of political connections for bank bailouts has been shown in Duchin and Sosyura (2012); Chavaz and Rose (2018), while Bertrand, Kramarz, Schoar and Thesmar (2018); Goldman, Rocholl and So (2013, 2009); Cheung, Jing, Rau and Stouraitis (2005) highlight importance of political connections more generally. For evidence on home bias and moral suasion in the market for government bonds see Acharya and Steffen (2015).

[5]For a discussion on retrenchment in financial integration since the Global Financial Crisis see Claessens (2017); Bremus and Neugebauer (2018).

2 Data & Empirical Strategy

2.1 Data

I capture lending of almost the entire European banking sector operating on Dealscan during the period from 2000 to 2015. The sample consists of 529 bank holdings headquartered in 28 EU countries. I include all banks with a mean lending volume of larger than 22m USD focusing on lending by commercial banks. Banks are then aggregated at the parent level applying a time-varying ownership correction of each subsidiary during the sample period. I hand-correct changes in the ownership from 2,199 subsidiaries using information on ownership changes from company websites, Bankscope and newspaper articles. Then, I merge the lending banks from Dealscan with Bankscope to add balance sheet information, accounting for time-varying ownership changes throughout the sample.[6]

Bailout data is hand-collected using the state aid cases provided by the European Comission.[7] I classify bailouts into three types: nationalization, recapitalization and other (e.g. unusual access to liquidity). Each type is constructed as time-varying dummies that take value one for periods in which the state intervention is active. Therefore, the unit of variation is the bank-bailout country-year level. Start and end dates are drawn from the state aid cases. In case of unknown end dates, the nationalizations will take value one for the full sample period. In case of recapitalizations, I impute the end dates using the average duration of recapitalizations in the sample with known end dates. In addition, I construct the continuous variable 'recapitalization amount' where the full recapitalization amount is spread uniformly across all periods in which the bailout is active. Consecutive interventions are aggregated.

Bank-borrower country level To construct the bank-borrower country level I use Dealscan data on syndicated loans. First, I decompose syndicated loan deals into loan portions provided by each lender to obtain granular credit level data. Whenever Dealscan provides information on lending shares of each bank, I use this information to split loan

[6]For more information on the syndicated loan market's institutional setting see Berg, Saunders and Steffen (2016).

[7]The data can be downloaded here: http://ec.europa.eu/competition/elojade/isef/index.cfm?clear=1&policy_area_id=3

volume accordingly (available for 28 % of the deals).[8] In cases where lending shares are missing I split loan volume on a pro-rata basis among all banks in a syndicate.[9] Transactions with deal status 'canceled', 'suspended', or 'rumor' are removed and all loan nominations transformed into million U.S. Dollars (USD) using the spot exchange rate at origination, provided by Dealscan. If after this allocation procedure the loan portion is smaller than 10,000 USD, I drop the observation to remove erroneously small loans (0.6 % of observations). Next, I use the loan portions to construct each bank's outstanding loan volume as a stock variable to proxy the loan's entry on the loan book (Morais, Peydró and Ruiz, 2015). Each outstanding loan remains active until the end of its maturity. Second, I aggregate all outstanding loan portions between a bank-firm combination to obtain bank b's outstanding loan volume to firm f in year t, forming a bank-firm-year observation. Third, I aggregate all bank-firm-year observations by firm (borrower) country to obtain the bank-borrower country-year level as in Giannetti and Laeven (2012). Thus, I obtain each bank b's outstanding lending volume to all borrowers of country j ($volume_{b,j,t}$).

I construct a bias metric to take into account that time-varying differences in the borrower countries' market sizes may drive changes in bank lending shares. This bias metric captures the lending bias of bank b to all borrowers from country j at time t. Following Bremus and Fratzscher (2015), I adopt the bilateral bias definition to the bank-borrower country level:

$$bias_{b,j,t} = \begin{cases} \frac{s_{b,j,t} - w_{j,t}}{w_{j,t}} & \text{if } s_{b,j,t} \leq w_{j,t} \\ \frac{s_{b,j,t} - w_{j,t}}{s_{b,j,t}} & \text{if } s_{b,j,t} > w_{j,t}, \end{cases} \tag{1}$$

bounding the bias between $[-1, 1]$ as in Bremus and Fratzscher (2015) in order to avoid outliers to drive results . Where $s_{b,j,t}$ denotes bank b's lending share to all borrowers of country j, and $w_{j,t}$ is the market share of country j in the global syndicated lending market. All shares are time-varying at annual frequency denoted with t. Intuitively, a bias value of larger than zero implies that bank b's share in market j is larger than market j's share in the total syndicated loan market. Thus, positive (negative) values of $bias_{b,j,t}$

[8] See Giannetti and Laeven (2012); De Haas and Van Horen (2013)

[9] In the sub-case of partial information on loan shares, I first use the available information to allocate loan shares. Then, I split the remaining amount equally among banks with missing information. If the sum of the allocation rule is larger than 110 % I consider this an erroneous entry and treat it as if lending share information was not available in the first place.

imply a positive (negative) bias to borrowers in the respective country, relative to the market size of this country.

Firm level In order to analyze the effects of credit supply on firm (borrower) performance, I add firm balance sheet information to the data constructing a firm-year level. To do so, I first aggregate the firm-bank-year loan data to the firm-year level to obtain firms' lending relationships. Second, I match firms (borrowers) in Dealscan with firms in Compustat (Global and US) using the updated linking file provided in Chava and Roberts (2008) as of April 2018. Overall, I am able to match 8,205 firms (33 % of all firms) borrowing from 463 banks (161,645 firm-year observations).

To measure firms' relationships with banks that differ in the two dimensions of interest – nationality and bailout treatment – I construct three variables. These variables capture the differential lending effects by the four bank types on firm outcomes. First, *foreign affected* measures a firms relationship with foreign banks that are affected by a bailout. Intuitively, a high value of *foreign affected* implies that a firm borrows a lot from foreign banks that are bailed out. I construct this metric as the share of loans coming from banks that are affected by a bailout at t ($BO_{b,t} = 1$) and are foreign relative to the firm's nationality by headquarter ($foreign_b = 1$):

$$foreign\ affected_{f,t} = \frac{\sum_{\forall b} loan_{f,b,t} \cdot BO_{b,t} \cdot foreign_b}{\sum_{\forall b} loan_{f,b,t}} \tag{2}$$

Intuitively, *foreign affected* $= 1$ implies that a firm borrows exclusively from foreign banks that are all affected by a bailout. While a firm with *foreign affected* $= 0$ has no relationship with a bank that is affected by a bailout at time t. Therefore, higher values of *foreign affected* imply a stronger relationship of a firm with foreign banks that are affected by a bailout.

Second, *foreign unaffected* captures firms' relationships with foreign banks that are unaffected by a bailout. Third, *home affected* measures firms' relationships with banks from its home country that are affected by a bailout. Respectively, I weigh a firm f's outstanding loan volume by the bank dummys foreign ($foreign_b = 1$), affected ($BO_{b,t} = 1$) and unaffected ($NOBO_{b,t} = 1$):

$$foreign\ unaffected_{f,t} = \frac{\sum_{\forall b} loan_{f,b,t} \cdot NOBO_{b,t} \cdot foreign_b}{\sum_{\forall b} loan_{f,b,t}} \tag{3}$$

$$home\ affected_{f,t} = \frac{\sum_{\forall b} loan_{f,b,t} \cdot BO_{b,t} \cdot home_b}{\sum_{\forall b} loan_{f,b,t}} \tag{4}$$

2.2 Descriptive Statistics

Banks Table 1 shows that bailout banks and non-bailout banks are quite heterogeneous. Overall, there are 466 non-bailout banks and 66 bailout banks in the sample. Bailout banks are on average twice as large, are less-well capitalized, have more non-performing loans, less liquidity risk, more political connections[10], more global presence, lower homeshare and issue loans at higher interest rates to foreign borrowers relative to non-bailout banks. They are similar in terms of leverage and interest rates on assets from home borrowers. This highlights the importance of addressing this heterogeneity in the identification strategy in order to reduce the likelihood that results are driven by ommitted factors that are specific to bailout banks vis-a-vis non-bailout banks.

Firms Table 2 provides summary statistics of main variables at the firm level. In Table 3 , I split firms into firms with high and low dependence on foreign banks affected by a bailout. Firms with high dependence are quite heterogenous from firms with low dependence on foreign bailout banks. Overall, these differences highlight the importance to control for firm heterogeneity that will likely drive loan demand and performance by firms.

2.3 Empirical Strategy

Bank-borrower country level According to the financial protectionism hypothesis, banks are persuaded by the national government to shift lending towards the home market in return for receiving a bailout (as in Rose and Wieladek (2014); Chavaz and Rose (2018)). To test this hypothesis, I start by exploring how bank b's propensity to lend borrowers in country j at year t varies, depending on whether country j is the bank's home country and whether bank b receives a bailout or not. Therefore, the baseline regression specification is:

[10]Measured as government bank ownership compiled from Bankscope

$$y_{b,j,t} = \beta_1 \; home_{b,j} \times BO_{b,t} + \beta_2 \; home_{b,j} + \beta_3 \; BO_{b,t} + X_{b,t} + \mu_{b,j} + \theta_{b \times t} + \phi_{j \times t} + \varepsilon_{b,j,t}, \quad (5)$$

where the dependent variable, $y_{b,j,t}$, is either the outstanding loan volume by bank b to borrowers in country j at year t ($volume_{b,j,t}$), or the bias of bank b's loan portfolio to borrowers from country j at year t ($bias_{b,j,t}$). Therefore, $volume_{b,j,t}$ captures the intensive margin in lending while $bias_{b,j,t}$ takes changes in size of the respective borrower country into account. Moreover, $home_{b,j}$ is a time-invariant dummy taking value one if country j is bank b's home country by headquarter location. The bailout dummy variable $BO_{b,t}$ takes value one if bank b receives a bailout at time t[11]. $X_{b,t}$ denotes following bank-year control variables to capture omitted variables: assets, leverage, tier 1 capital ratio, non-performing loans, liquidity risk and globalness (number of bank b's active countries j). $\theta_{b \times t}$, $\phi_{j \times t}$, and $\mu_{b,j}$ denote bank-time, borrower country-time and bank-borrower country fixed effects, respectively. Standard errors are clustered at both the bank and time level.

The coefficient of interest is β_1, which reflects to what extent a bailout increases the bank's propensity to grant new loans to home rather than to foreign borrowers. According to the financial protectionism hypothesis, I expect $\beta_1 > 0$. That is, a bank increases its lending volume or lending bias at home more than abroad, following a bailout.

Central to the estimation of equation (5) is the definition of the control group. That is, for which observations the bailout variable $BO_{b,t}$ takes value zero. It takes value zero for all banks that do not receive a bailout, which assumes that all banks in the sample not receiving a bailout are a reasonable counterfactual for the treatment variable bailout. However, I draw solely on the within bank or within bank-borrower country variation for estimation to avoid cross-sectional inference from different banks or different bank-country combinations (through bank and bank-borrower country fixed effects).

The first identification challenge to testing the financial protectionism is to absorb loan demand. The granular structure of the underlying loan-level data allows to address this in three steps. First, $\phi_{j \times t}$ capture all time-varying unobserved heterogeneity at the borrower country level, including a borrower country's demand for loans. Second, $\theta_{b \times t}$ capture all time-varying unobserved heterogeneity across banks. For instance, $\theta_{b \times t}$ controls for

[11]Note two things on the construction of the bailout variable. First, the bailout can come from any country. Thus, the bailout country may be different from the bank's home country in a few cases, for example Dexia. Second, the bailout keeps value one for all years in which the bailout is active. It takes value zero, after a bailout ends (for instance, after the scheduled payback of the recapitalization funds).

idiosyncratic shocks to banks' credit supply and other changes at the bank-time level. Third, adding $\mu_{b,j}$ controls for unobservable heterogeneity at the bank-borrower country level such as distance.

The second identification challenge is that bailouts are endogenous to other unobservable variables such as political connections. This selection bias may lead to biased coefficients that I would like to acknowledge. While I will not be able to remove these concerns fully, I attempt addressing remaining concerns on firm heterogeneity and selection bias in Section 3.2.

Overall, the employed fixed effects structure allows addressing a range of alternative explanations, which could lead to a spurious correlation between bailouts and a bank's propensity to prefer home over foreign borrowers. Central to the estimation is the absorption of any demand shock affecting country j and any supply shock affecting bank b. Thus, the empirical framework allows for identification of the differential propensity of bank b to lend to their home rather than foreign country after receiving a bailout, using as controls other banks that are lending to the same countries but were not bailed out.

Firm level To analyze the effects of credit supply on real effects, I will now move to the firm-year level. I will test whether firms with exposure to foreign bailout banks experience a credit crunch and whether this affects firm performance. To establish real effects of financial protectionism I will proceed in three steps. First, I analyze whether there is a credit crunch for foreign firms following the bailouts. Second, I test whether firms are able to substitute this fall in credit with alternative funding sources. For instance, some firms may be able to draw credit from a bailout bank in its home country. Moreover, firms may also be able to substitute into other debt instruments such as non-syndicated loans or corporate bonds. Third, I will test whether imperfect credit substitution leads to real effects for firms.

In order to test for a credit crunch, credit substitution and real effects I estimate variants of following regression equation at the firm-year level:

$$\begin{aligned} \Delta\, y_{f,t} = \delta_1\, \textit{foreign affected}_{f,t-1} + \delta_2\, \textit{foreign unaffected}_{f,t-1} \\ + \delta_3\, \textit{home affected}_{f,t-1} + X_{f,t} + \phi_f + \phi_{c,i,t} + u_{f,t} \end{aligned} \tag{6}$$

The baseline specification tests for a foreign credit crunch associated with bailouts on

the syndicated loan market. Therefore, the dependent variable $\Delta\ y_{f,t}$ will be the loan growth of total syndicated lending by firm f at year t. In the second specification, the dependent variable will be loan growth of total long-term debt of firm f to capture credit substitution into alternative debt instruments such as non-syndicated credit or corporate bonds. To analyze real effects, I use sales and employment growth as dependent variables. The variable *foreign affected*$_{f,t-1}$ is the share of firm f's outstanding credit from foreign banks affected by a bailout as defined in equation (2), with lending relationships lagged by one period. Moreover, *foreign unaffected*$_{f,t-1}$ captures a firm's relationship with foreign banks unaffected by a bailout and *home affected*$_{f,t-1}$ captures a firm's relationship with home banks affected by a bailout, as defined in equations (3) and (4). $X_{f,t}$ denotes following firm-year control variables to capture firm demand: log of total assets, leverage, sales, liquidity and common equity. ϕ_f denote firm fixed and $\phi_{c,i,t}$ denote country*industry*year fixed effects, where c stands for country and i for industry of firm f.

The main coefficient of interest δ_1 is on *foreign affected* and is the firm-level flipside of β_1, which is the estimated interaction coefficient ($home \times BO$) from bank-country level equation (5). It illustrates the change in loan growth for firms with high dependence on foreign bailout banks capturing the credit crunch of foreign firms. To analyze whether bailouts affect lending to home and foreign firms differently, I add the two control groups: i) *foreign unaffected* to capture a firm's dependence on foreign banks that are unaffected by bailouts, and ii) *home affected* to capture a firm's dependence on home banks that are affected by bailouts. To avoid contemporaneous effects of bailouts on this metric I include these variables in lags.

A challenge to identification of financial protectionism is to disentangle two forces intrinsically related with bailouts: financial protectionism and idiosyncratic bank shocks. It may well be, that the discrimination against foreign borrowers is caused by the banks idiosyncratic shock putting the bank into distress in the first place. If the banks' problems are the cause of the discrimination, If the reason for discriminating against foreign borrowers is really protectionism and not the banks problems that put it into distress in the first place, then bailouts should be zero. The comparsion between the two groups *foreign affected* and *home affected*, allows to disentangle this effect as both firms are exposed to bailout banks, while they differ in terms of nationality relative to the firm. Moreover, this specification sheds light on whether banks increase their home bias by cutting lending to foreign firms or rather by extending more of the new capital to home

firms.

In case of perfect substitution, $\delta_1 = 0$ in the regressions with total syndicated lending and long-term debt as dependent variables as firms substitute the fall in lending by switching banks or resorting to non-syndicated debt instruments. For instance, if bailout banks in the home market retrench just as foreign banks shift their business into their own domestic markets, firms switch to home banks leaving net credit unaffected. However, this may not be possible as home banks are at an informational disadvantage relative to foreign banks who had formed lending relationships with the firms. A common finding in the literature is that it is diffcult for firms to form new bank relationships in times of banking crises (Ongena and Smith, 2001; Chodorow-Reich, 2014). This gives rise to imperfect credit substitution implying $\delta_1 < 0$.

In order to interpret this as a loan supply effect, I use firm and country*industry*time fixed effects to absorb time-varying loan demand per industry-country bucket. This assumes that all firms in the same industry-country bucket change their loan demand similarly. Alternatively, I will use country*time fixed effects as a less demanding specification and show that results are similar across different specifications.

3 Main Results

I present the main results in four steps. First, I establish evidence on financial protectionism by analyzing bank lending at the bank-borrower country level and show that banks increase their home bias following a bailout (section 3.1). Thereafter, I examine the robustness of the results (section 3.2). Then, I evaluate real effects by showing that firms with higher dependence on foreign bailout banks have lower loan, long-term debt, sales and employment growth (section 3.3). Finally, I examine the characteristics of the protected home firms and illustrate that lending shifts towards larger, safer and less innovative firms at home (section 3.4).

3.1 Effect of Bailouts on Home Bias in Lending

Table 4 reports results for regression Equation (5) and shows that banks increase their home bias following a bailout. The dependent variable is the bias of bank b's lending to borrowers from country j at time t as defined in Equation (1). Column (1) looks at the within-bank and within-time variation by using bank and time fixed effects. To control for bank heterogeneity I add size, leverage, capitalization, non-performing loans, liquidity risk and globalness, which restricts the sample to observations with full data coverage in Bankscope. In line with expectations, the coefficient on $Home$ is positive, reflecting the positive home bias in bank lending throughout the sample. The coefficient of interest (β_1) on the interaction term (Home $\times$ Bailout) is positive and statistically significant. Following a bailout, banks increase the lending bias to their home market by ($\frac{0.177}{0.656+0.177}$ =) 21.2 %.

To address concerns about omitted variables, column (2) adds bank-time fixed effects to control for time-varying unobserved heterogeneity across banks. Thus, bank-time fixed effects capture idiosyncratic shocks to banks' credit supply and other changes at the bank-time level. As bank-time fixed effects subsume the bank control variables used in the first specification, this now allows for an analysis on the full sample. Thus, the tendency of bailout banks to lend more to their home country does not depend on the fact that certain banks lend more or less than others to all countries, as I include bank-time fixed effects.

To address time-varying changes in loan demand across countries, I further add bor-

rower country-time fixed effects in column (3). That is, borrower country-time fixed effects control for changes in loan demand at the borrower country level that is common to all banks. Therefore, the tendency of bailout banks to increase their home bias is also not driven by countries rolling out a bailout scheme to borrow more, as the estimates are robust to including borrower country-time fixed effects. In this preferred specification, banks increase the lending bias to their home market by ($\frac{0.253}{0.773+0.253}$ =) 24.6 %, after receiving a bailout.

The coefficient of interest on the interaction term *Home* × *Bailout* remains significant even after controlling for bank-borrower country fixed effects in column (4). This specification relies on the within bank-borrower country variation and thereby controls for further unobservable heterogeneity such as distance between bank and borrower country. The estimated coefficient is now smaller but remains both economically and statistically significant.

To explore the intensive margin of foreign bank lending following bailouts, I now re-estimate Equation (5), after replacing the dependent variable by the log outstanding loan volume issued by bank b to borrowers in country j at year t. Table 5 shows results on the intensive margin by repeating the identifaction strategy of Table 4. The coefficient of interest on the interaction term *Home* × *Bailout* is positive and statistically significant across specifications. In the most conservative specification shown in column (4), banks increase the lending volume to borrowers in their home country by 30.4 % relative to foreign borrowers, after receiving a bailout.

Overall, this suggests that banks are persuaded by the government to engage in financial protectionism in return for receiving a bailout. Across specifications, I find that banks increase their home bias following a bailout. Moreover, bailout banks increase the lending volume more to home borrowers than to foreign borrowers, relative to non-bailout banks. These results hold after controlling for loan demand, bank-borrower country characteristics and time-varying bank heteroegeneity.

3.2 Robustness

In this section I address doubts on identification arising due to concerns that bailouts are likely endogenous. While I would like to acknowledge that I will not abe able to remove these concerns fully, I address following issues in this section. First, I address the concern

of firm heterogeneity between bailout and non-bailout banks by employing firm-time fixed effects on the firm-bank-time level. Second, I will turn to the issue of selection bias by applying propensity score matching to make bailout and non-bailout banks comparable on observable variables.

3.2.1 Firm Heterogeneity

The central identification challenge is to identify loan supply to foreign firms following a bailout. It may be that bailout banks are cutting credit more to foreign firms because the quality of their foreign loan portfolio is lower in comparison to non-bailout banks. Hence, firm heterogeneity could explain the differences in lending between bailout and non-bailout banks.

To address this concern, I will move the analysis to the bank-firm-year level in order to absorb loan demand through firm-time fixed effects. By comparing the lending behavior of bailout and non-bailout banks to the same borrower, I address the concern that differences in loan demand biases the results on bank lending (Khwaja and Mian, 2008).

Table 6 shows that bailout banks reduce their lending to foreign firms, relative to non-bailout banks after absorbing loan demand. The dependent variable is the log outstanding loan volume between bank b and firm f at year t. Column (1), adds bank-firm fixed effects to compare the lending of the same banks to the same firm over time.[12] In general, bailout banks extend loans with higher volume, as indicated by the positive coefficient on *Bailout*. The coefficient of interest on the interaction term (*Foreign* $\times$ *Bailout*), however, is highly significant and negative. This supports the previous finding that bailout banks reduce their lending to foreign firms compared to non-bailout banks.

To ensure that this negative effect on foreign lending reflects loan supply, column (2) and column (3) add country-industry-time and firm-time fixed effects. Therefore, column (3) supports that the negative effect of bailouts on foreign lending reflects loan supply, as it absorbs any time-varying changes in loan demand at the firm level. Following a bailout, banks reduce their lending volume to foreign firms by 7.2 % relative to non-bailout banks.

In order to control for time-varying differences across banks driven by factors at the bank level, I add bank-time fixed effects in column (4) and (5).[13] In the strictest

[12]The coefficient $Foreign_{b,f}$ is absorbed by bank-firm fixed effects.
[13]The coefficient on $Bailout_{b,t}$ gets absorbed through bank-time fixed effects.

specification reported in column (5), the magnitude of the coefficient is reduced but remains both statistically and economically significant at 3 %.

Comparing column (2) and (3), both country-industry-time and firm-time fixed effects yield similar coefficients. This similarity supports the identification strategy at the firm level in section 3.3, where aggregation allows only the inclusion of country-industry-time fixed effects.

Overall, these results confirm the previous finding on bailouts and foreign lending: banks reduce their lending to foreign firms after receiving a bailout, which cannot be explained by firm heterogeneity.

3.2.2 Selection Bias

In this section I apply propensity score matching to make bailout and non-bailout banks comparable across observables in order to address potential concerns of selection bias. This matching mimics a natural experiment in which treatment and control group are similar on all observables, but differ with respect to the bailout treatment. Thus, matching addresses the heterogeneity presented in section 2 as we are now comparing banks that are similarly affected by the banking crisis itself at the time of the bailout.

To implement propensity score matching I proceed in two steps. First, I implement a kernel weighting density algorithm and assess the quality of the match. Second, I will repeat the regression of Equation (5) on the matched sample. I assess the match performed on the following covariates: year, leverage, assets, political connections, country and return on assets. Figure 1 shows the balance of covariates between bailout and non-bailout banks in terms of standardized means (x-axis) and variances (y-axis). After matching, the standardized variances and means between the groups are in the suggested bands. Moreover, Figure 2 shows that the propensity score distribution after the implementation of kernel weighting looks balanced across bailout and non-bailout banks. Overall, this suggests that bailout and non-bailout banks are now comparable across observables and only differ in terms of bailout treatment, after implementing the match.

We can now proceed to the analysis of the treatment effect by repeating the regression of section 3.1 on the matched sample. Treatment and control group are now matched in terms of bank risk (leverage, liquidity risk), health (capital ratio, NPL share), globalness (number of active countries), political connections and size; and differ only in terms of

bailout.

Table 7 shows that results after matching are similar to results without matching. Coefficients remain comparable both in significance and magnitude. Intuitively, two banks that are similar in terms of risk, globalness, political connections and health but differ only in whether they receive a bailout, change their home bias differently. The bank affected by a bailout will increase its home bias substantially more than the unaffected bank. This suggest, that the results on financial protectionism discussed in section 3.1 are not driven by selection bias.

3.3 Real Effects

To examine whether the negative credit supply to foreign firms has real effects, I will now turn to the firm-year level. So far, bank-borrower country level regressions capture changes in lending by a bank to all borrowers from a specific country. However, if firms can substitute between different bank types following a fall in credit, changes in bank lending may not affect firms. Suppose a bailout bank cuts lending to a foreign firm. If this firm forms a new borrowing relationship with a bailout bank at home, this will mitigate the negative credit supply effect. Therefore, I test for credit substitution by firms in order to establish a link between loan supply and real effects. Table 8 and Table 9 estimate regression Equation (6). Firms with strong relationships with foreign bailout banks experience a larger drop in lending than firms with weak relationships. As credit substitution is imperfect, firms with strong relationships with foreign bailout banks perform worse than firms with weak relationships.

In Table 8, I test for a credit crunch to foreign firms while absorbing firm heterogeneity through different combinations of fixed effects and firm controls. Column (1) controls for unobservable time-invariant firm characteristics through firm fixed effects and time-varying unobservable firm characteristics through country*industry*year fixed effects. The dependent variable is loan growth (Δ *loan volume*$_{f,t}$). The coefficient on *foreign affected banks* is negative and statistically significant at the 1 % level. Increasing dependence on foreign affected banks from the 10^{th} to the 90^{th} percentile decreases loan growth by 6.5 % ($(0.71 - 0.0) \times -0.092$). The coefficient for dependence on *foreign unaffected banks* is about half in size of the coefficient for foreign affected banks. This suggests that the flight home effect documented in (Giannetti and Laeven, 2012) can-

not explain the documented increase in home lending fully. Although all foreign banks are found to retrench in general in line with the flight home hypothesis, the effect for foreign bailout banks is twice as strong. In contrast, firms that have relationships with *home affected banks* do not experience an increase in lending after these banks are bailed out. Thus, firms can not undo the fall in credit by foreign bailout banks by resorting to home bailout banks. Overall, this suggest that banks engage in financial protectionism following a bailout.

Effects are similar when absorbing demand effects instead with less demanding country*year fixed effects in column (3). In addition to the time-varying fixed effects, I add firm-year controls to control for loan demand, restricting the sample to firms for which I have balance sheet information in column (2) and (4). The coefficient on foreign affected banks remains stronger than for foreign unaffected banks, although the difference now becomes slightly smaller, suggesting that controlling for firm demand is important but that the story cannot be explained by firm heterogeneity only. These results suggest that firms are not able to substitute a fall in credit by a foreign affected bank by switching banks on the syndicated loan market, a common finding in the literature on banking crises (Ongena and Smith, 2001; Chodorow-Reich, 2014).

To disentangle financial protectionism from the idiosyncratic bank shock that are both related to the bailout in the first place, I will compare foreign affected with the control group home affected. Intuitively, both capture the exposure to banks that are bailed out and are thus all subject to idiosyncractic bank shocks. The difference between these two groups is now only the nationality of the borrower relative to the nationality of the bailout bank. Table 8 illustrates that while exposure to foreign affected banks has a negative effect on a firm's loan growth, exposure to home affected banks has no effect irrespective of the specification. This shows that while banks cut lending to foreign firms they do not extend more loans to home firms following a bailout.

Overall, this documents a differential effect of bank bailouts on lending to firms, depending on the relative nationality between firm and bank. These results provide evidence that banks engage in financial protectionism, that cannot be explained by idiosyncractic bank shocks and the flight home effect documented in the literature.

Turning to the real effects in Table 9, I now restrict the sample to firms with available balance sheet information. I use the growth rates of long-term debt, employment and sales as dependent variables. In order to absorb loan demand, I add firm controls, firm

fixed effects as well as country*industry*year fixed effects to all specifications. Column (1) shows that firms can at most imperfectly substitute the decline in syndicated lending by alternative sources of funding - including non-syndicated loans and corporate bonds. Consistent with the fall in credit, I find that firms borrowing from foreign affected banks perform worse than firms borrowing from foreign unaffected banks and home affected banks. Moving firms from the 10^{th} to the 90^{th} percentile in terms of dependence on foreign affected banks, leads to lower long-term debt (-6.7 %, column (1)), sales (-3.5 %, column (2)) and employment growth (-3.0 %, column (3)). The real effects of foreign unaffected banks are around three-quarters in size. Therefore, the difference in performance between firms relying on foreign affected and foreign unaffected banks is less pronounced when looking at real effects, compared to the nominal lending effects.

In sum, Tables 4, 5, 8 and 9 establish that the foreign syndicated lending contraction has real economic effects on the affected firms. As banks engage in financial protectionism and cut lending to foreign firms, these firms cannot undo this by resorting to other forms of funding. Borrowing from foreign banks affected by a bailout significantly reduces firms' loan, sales and employment growth.

3.4 Credit Allocation

In this section, I examine whether bailouts distort credit allocation in the home market. If government intervention shifted credit allocation towards larger, safer and less innovative firms, this would lower productivity and growth in the home market. To test the effect on credit allocation, I sort borrowers into the bottom and top halves according to their distribution of size, R&D intensity and ROA volatility, fixing the distribution at $t-1$. Where size is defined by borrower f's total assets, R&D intensity is the ratio of R&D expenditure over sales, and ROA volatility is an ex-ante volatility measure defined as the five-year standard deviation of firm f's return on assets (ROA, using profit & loss before tax) from year $t-5$ to $t-1$, following Heider et al. (2018). Within borrower types, I then compare lending , holding the same borrower constant.

Table 10 examines the shift in credit allocation in the home market distinguishing borrowers by size, risk and R&D intensity. Comparing effects at home and abroad, bailout banks increase lending within large borrowers, while they do not increase lending to small borrowers (columns 1 and 2). In columns 3 and 4, I instead split borrowers into

the top and bottom halves according to the distribution of R&D intensity. Within less innovative borrowers, bailout banks increase their lending more at home than abroad. Within more innovative borrowers, this coefficient is positive but of lower magnitude. Moreover, comparing effects at home relative to abroad, bailout banks increase their loan volume within safe borrowers, while they do not increase lending within risky borrowers (if anything, they decrease lending, columns 5 and 6).

Overall, these results provide evidence that government intervention distorts the credit allocation in the home market by protecting larger, safer and less innovative firms, which could be harmful for the outlook of growth and productivity in the home market.

4 Mechanism

This section highlights the channels through which governments suade banks to engage in financial protectionism in return for issuing a bailout. Governments may gain influence over the banks' business through a transfer of control rights accompanying the bailout. This transfer of control rights could be particularly important for those banks with which the government has no political connections before the bailout. Thus, financial protectionism may be particularly strong for those bailouts that brought about an increase in government control over the bank.

To test the mechanism that operates through an increase in governments' control rights, I capture following two dimensions. First, whether the government already has influence over the bank irrespetive of the bailout. I distinguish banks into banks with and without political connections to capture the extent to which the government already has influence over the bank before the bailout. A bank is defined as politically connected, if either the home government is one of its shareholders or if the institution is publicly owned. Second, whether a bailout comes with a transfer of control rights from bank to the government. I distinguish bailouts into two categories: i) bailouts that come with a transfer of control rights and ii) bailouts that come without a transfer of control rights to the government. I define a bailout with a transfer of control rights to the government as a bank nationalization as this gives the government direct influence over the banks' management. A bailout with no transfer of control rights is defined as a pure capital injection, either through a recapitalization or by providing unusual liquidity, but without

a change in public ownership of the bank.[14]

Table 11 provides evidence in support of the mechanism that works through a transfer of control rights to the government. Column 1 tests the differential effect of a transfer of control rights for politically unconnected banks on lending through triple interactions. The strongest increase in home lending is associated with bailouts that transfer control rights from ex-ante politically unconnected banks to the government. As can be seen in row three, no significant effect on home lending can be found for those bailouts that do not transfer control rights from politically unconnected banks to the government. I do not find evidence for protectionism operating through bailouts without transfer of control rights (i.e. pure capital injections) independent of a banks' political connections.

In sum, this suggests that financial protectionism operates through a transfer of control rights from ex-ante politically unconnected banks to the government, as the government establishes direct influence over the banks' business through the bailout.

[14]I omit bank-borrower country fixed effects as both *Political Connections* and *Home* are invariant at the bank-borrower country level.

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5 Tables and Figures

5.1 Descriptives

Figure 1: **Balance of Covariates**

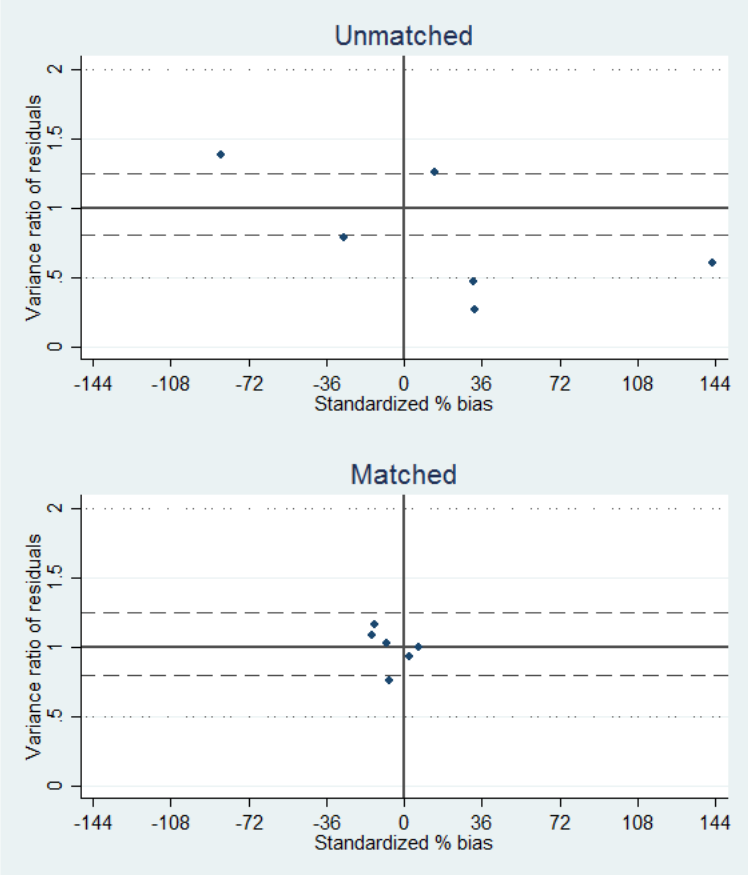

Figure 2: **Propensity Score Distribution**

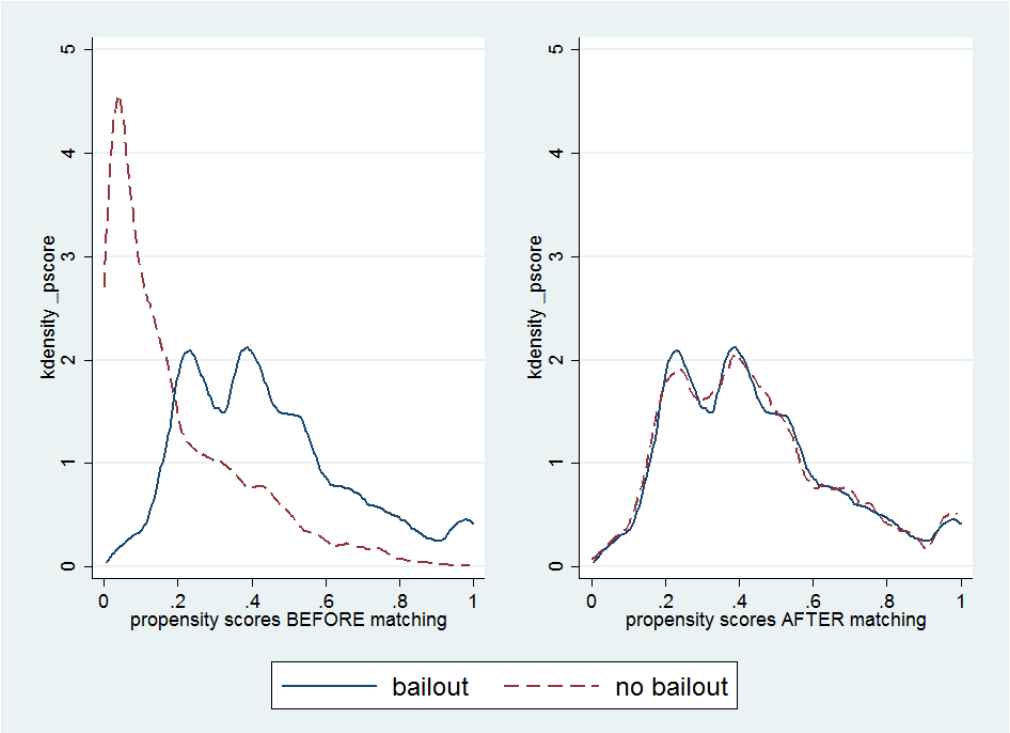

Table 1: summary statistics (means)

	Bailout	No Bailout
Assets	267,970.80	136,003.00
Tot.Lending	25,147.35	5,154.12
Leverage	0.94	0.93
Tier1	10.45	12.69
NPL	0.10	0.07
LiquRisk	0.96	2.07
Pol.Con1	34.24	12.88
Pol.Con2	23.88	12.08
Globalness	23.87	7.32
Homeshare	41.51	61.26
Borr.Quality.H	134.67	138.85
Borr.Quality.F	158.69	145.90
Banks	66	463

Table 2: Summary statistics

Variable	**Mean**	**Std. Dev.**	**N**
fboe	0.151	0.295	161645
hboe	0.037	0.142	161645
emp	20.985	42.427	48819
assets	5588163.213	328081532.993	58584
inv	97408.960	7043628.269	55971
ltdebt	582767.28	34941669.486	58504
liabilities	4491078.616	279369395.744	58562
leverage	0.329	0.195	57648
q	1.514	0.85	29645
roa	0.071	0.065	55635
sizeat	5588163.213	328081532.993	58584
ldemp	0.031	0.168	44844
ldassets	0.065	0.416	56932
ldinv	0.037	0.537	51751
ldltdebt	0.075	0.554	53146
ldliabilities	0.074	0.469	56891
cpay	0.5	0.5	23363
clev	0.5	0.5	38430
ratew	193.626	131.492	117452
maturityw	79.739	56.165	161577

Table 3: Summary statistics (means)

	High Foreign BO	Low Foreign BO
Assets	539.07	7,288.55
LtDebt	126.74	736.42
Liabilities	330.12	5,892.31
ForeignBankDep	0.89	0.75
ForeignBoBankDep	0.57	0.005
HomeBoBankDep	0.04	0.04
Employment	24.90	19.65
Leverage	0.34	0.33
TobinsQ	1.42	1.54
RoA	0.07	0.07
Employment.Growth	0.02	0.03
AssetGrowth	0.05	0.07
InvestmentGrowth	0.02	0.04
FinancialConstr1	0.49	0.50
FinancialConstr2	0.55	0.48
LoanRate	222.70	183.02
Maturity	87.13	77.18

5.2 Results

Table 4: **Effect of Bailouts on Home Bias in Lending**

VARIABLES	(1) Bias	(2) Bias	(3) Bias	(4) Bias
Home × Bailout$_{b,t}$	0.177**	0.214***	0.253***	0.144**
	(0.0784)	(0.0727)	(0.0660)	(0.0500)
Home	0.656***	0.578***	0.773***	
	(0.0470)	(0.0339)	(0.0338)	
Bailout_b,t	-0.0184			
	(0.0216)			
Assets	0.0346			
	(0.0285)			
Leverage	-0.156			
	(0.531)			
Capital ratio	-0.000355			
	(0.00165)			
NPL share	-0.0596			
	(0.174)			
Liquidty Risk	0.00321			
	(0.00530)			
Globalness	-0.00146			
	(0.00194)			
Observations	21,775	48,526	48,526	48,526
Bank FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Bank x Time FE	No	Yes	Yes	Yes
Borrower country x Time FE	No	No	Yes	Yes
Bank x Borrower country FE	No	No	No	Yes
Cluster	Bank + Time	Bank + Time	Bank + Time	Bank + Time

Note: This table shows regressions on the bank-borrower country-year level. The dependent variable is lending bias of bank b to country j at year t as defined in Section 2; *Home* is a dummy with value one for the banks home country; *Bailout* is a time-varying dummy with value one during active bank bailouts as defined in Section 2; All standard errors are clustered both at the bank and year level. *** p<0.01, ** p<0.05, * p<0.1

Table 5: **Effect of Bailouts on Lending Volume**

VARIABLES	(1) log loan volume	(2) log loan volume	(3) log loan volume	(4) log loan volume
Home × $\text{Bailout}_{b,t}$	0.630**	0.650**	0.579**	0.304*
	(0.249)	(0.282)	(0.231)	(0.163)
Home	2.814***	2.509***	2.061***	
	(0.139)	(0.108)	(0.0965)	
Bailout_b,t	-0.00623			
	(0.0708)			
Assets	0.116			
	(0.0788)			
Leverage	1.221			
	(1.261)			
Capital ratio	0.00196			
	(0.00426)			
NPL share	-0.388			
	(0.459)			
Liquidty Risk	-0.00248			
	(0.00348)			
Globalness	0.0102			
	(0.00593)			
Observations	21,661	48,539	48,539	48,539
Bank FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Bank x Time FE	No	Yes	Yes	Yes
Borrower country x Time FE	No	No	Yes	Yes
Bank x Borrower country FE	No	No	No	Yes
Cluster	Bank + Time	Bank + Time	Bank + Time	Bank + Time

Note: This table shows regressions on the bank-borrower country-year level. The dependent variable is the log outstanding loan volume of bank b to borrowers in country j at year t; *Home* is a dummy with value one for the banks home country; *Bailout* is a time-varying dummy with value one during active bank bailouts as defined in Section 2; All standard errors are clustered both at the bank and year level. *** p<0.01, ** p<0.05, * p<0.1

Table 6: **Firm Heterogeneity: Firm×Time Fixed Effects**

VARIABLES	(1) log loan volume	(2) log loan volume	(3) log loan volume	(4) log loan volume	(5) log loan volume
Foreign × Bailout	-0.089**	-0.079***	-0.072***	-0.073***	-0.030*
	(0.038)	(0.020)	(0.020)	(0.025)	(0.017)
Bailout	0.252***	0.060***	0.060***		
	(0.041)	(0.019)	(0.019)		
Observations	483,176	483,176	483,176	483,176	483,176
R-squared	0.875	0.925	0.948	0.888	0.951
Bank × Firm FE	Yes	Yes	Yes	Yes	Yes
Bank × Time FE	No	No	No	Yes	Yes
Country × Industry × Time FE	No	Yes	-	No	-
Firm × Time FE	No	No	Yes	No	Yes
Cluster	Country × Time	Country × Time	Country × Time	Country × Time	Country × Time

Note: This table shows regressions on the bank-borrower-year level. The dependent variable is the log outstanding loan volume of bank b to borrowers f at year t; *Home* is a dummy with value one for the banks home country; *Bailout* is a time-varying dummy with value one during active bank bailouts as defined in Section 2; All standard errors are clustered both at the bank and year level. *** p<0.01, ** p<0.05, * p<0.1

Table 7: **Matching: Effect of Bailouts on Home Bias in Lending**

VARIABLES	(1) Bias	(2) Bias	(3) Bias	(4) Bias
Home × Bailout$_{b,t}$	0.204**	0.209**	0.234***	0.209***
	(0.0845)	(0.0817)	(0.0832)	(0.0776)
Home	0.617***	0.611***	0.835***	0.838***
	(0.0583)	(0.0522)	(0.0530)	(0.0623)
Bailout_b,t	-0.0291	-0.0358	-0.0147	-0.0344*
	(0.0244)	(0.0218)	(0.0251)	(0.0207)
Assets	-0.00712	0.0648	0.0225	0.0492
	(0.0308)	(0.0421)	(0.0307)	(0.0455)
Leverage	-0.0187	0.0667	-0.228	-0.289
	(0.577)	(0.460)	(0.486)	(0.343)
Capital ratio	-0.00398***	-0.00194	0.000715	0.00127
	(0.00142)	(0.00141)	(0.00140)	(0.00130)
NPL share	-0.198	-0.0550	0.0487	0.158
	(0.186)	(0.102)	(0.175)	(0.106)
Liquidty Risk	0.00233	0.0248**	0.000584	0.0222**
	(0.00501)	(0.0108)	(0.00421)	(0.0106)
Pol. Connect. = o,	-	-	-	-
Globalness	0.000423	0.000849	-0.00436**	-0.00473**
	(0.00190)	(0.00192)	(0.00217)	(0.00213)
Observations	19,884	19,758	19,692	19,562
PS Matching	No	Yes	No	Yes
Bank FE	Yes	Yes	Yes	Yes
Borrower country x Time FE	No	No	Yes	Yes
Cluster	Bank	Bank	Bank	Bank

Note: This table shows regressions on the bank-borrower country-year level. The dependent variable is lending bias of bank b to country j at year t as defined in Section 2; *Home* is a dummy with value one for the banks home country; *Bailout* is a time-varying dummy with value one during active bank bailouts as defined in Section 2; All standard errors are clustered both at the bank and year level. *** p<0.01, ** p<0.05, * p<0.1

Table 8: **Impact of Bailouts on Foreign Firm's Lending**

VARIABLES	(1) Δ loan volume	(2) Δ loan volume	(3) Δ loan volume	(4) Δ loan volume
foreign affected banks	-0.092***	-0.150***	-0.091***	-0.132***
	(0.020)	(0.039)	(0.015)	(0.026)
foreign unaffected banks	-0.055***	-0.102***	-0.050***	-0.081***
	(0.017)	(0.030)	(0.013)	(0.021)
home affected banks	0.007	-0.035	-0.001	-0.021
	(0.018)	(0.061)	(0.013)	(0.035)
assets		0.041***		0.026***
		(0.010)		(0.006)
leverage		0.131***		0.116***
		(0.036)		(0.023)
sales		0.000		0.000*
		(0.000)		(0.000)
liquidity		0.031**		0.029**
		(0.015)		(0.012)
common equity		-0.000		-0.000*
		(0.000)		(0.000)
Observations	87,354	25,667	130,107	43,244
R-squared	0.360	0.377	0.163	0.171
Firm FE	Yes	Yes	Yes	Yes
Country × Time FE	-	-	Yes	Yes
Country × Industry × Time FE	Yes	Yes	-	-
Controls	-	Yes	-	Yes
Cluster	Firm	Firm	Firm	Firm

Table 9: **Impact of Bailouts on Credit Substitution and Firm Performance**

VARIABLES	(1) Δ long-term debt	(2) Δ sales	(3) Δ employment
foreign affected banks	-0.094**	-0.049***	-0.043***
	(0.042)	(0.015)	(0.014)
foreign unaffected banks	-0.075**	-0.035***	-0.036***
	(0.031)	(0.012)	(0.011)
home affected banks	0.020	0.048	-0.006
	(0.112)	(0.030)	(0.033)
assets	0.250***	0.078***	0.052***
	(0.016)	(0.006)	(0.005)
leverage	1.268***	-0.022	0.011
	(0.060)	(0.019)	(0.017)
sales	-0.000	0.000***	-0.000
	(0.000)	(0.000)	(0.000)
liquidity	0.317***	0.071	0.057***
	(0.050)	(0.046)	(0.021)
common equity	-0.000**	-0.000***	0.000
	(0.000)	(0.000)	(0.000)
Observations	24,568	25,531	22,170
R-squared	0.463	0.618	0.512
Firm FE	Yes	Yes	Yes
Country × Industry × Time FE	Yes	Yes	Yes
Cluster	Firm	Firm	Firm

Table 10: **Impact of Bailouts on Banks' Loan Portfolio**

VARIABLES	(1) Bottom-half firm size	(2) Top-half firm size	(3) Bottom-half R&D intensity	(4) Top-half R&D intensity	(5) Bottom-half RoA volatility	(6) Top-half RoA volatility
Home × Bailout	0.010	0.069*	0.137***	0.100**	0.066**	-0.049
	(0.027)	(0.035)	(0.043)	(0.046)	(0.028)	(0.036)
Observations	57,339	62,493	21,531	22,371	56,421	54,678
Bank × Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank × Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm × Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Country × Time	Country × Time	Country × Time	Country × Time	Country × Time	Country × Time

Note: This table shows regressions on the bank-borrower-year level. The dependent variable is the log outstanding loan volume of bank b to borrowers f at year t; The sample is split into the top and bottom half of the annual median according to the distribution of firm size, firm R&D intensity and firm RoA volatility; *Home* is a dummy with value one for the banks home country; *Bailout* is a time-varying dummy with value one during active bank bailouts as defined in Section 2; All standard errors are clustered both at the bank and year level. *** p<0.01, ** p<0.05, * p<0.1

Table 11: **Transfer of Control Rights and Political Connections**

VARIABLES	(1) log loan volume	(2) Bias
Home × Control Rights × No Political Connection	2.538***	0.589*
	(0.750)	(0.295)
Home × Control Rights	-0.156	0.142
	(0.673)	(0.193)
Home × No Control Rights × No Political Connection	0.325	0.0972
	(0.450)	(0.157)
Home × No Control Rights	0.361	0.152
	(0.389)	(0.119)
Home × No Political Connection	0.0654	0.0433
	(0.231)	(0.0818)
Home	2.013***	0.678***
	(0.187)	(0.0661)
Observations	48,539	47,850
Bank x Time FE	Yes	Yes
Borrower country x Time FE	Yes	Yes
Cluster	Bank + Time	Bank + Time

Note: This table shows regressions on the bank-borrower country-year level. In column 1, the dependent variable is the log outstanding loan volume of bank b to borrowers in country j at year t; In column 2, the dependent variable is lending bias of bank b to country j at year t as defined in Section 2; *Home* is a dummy with value one for the banks home country; *Bailout* is a time-varying dummy with value one during active bank bailouts as defined in Section 2; All standard errors are clustered both at the bank and year level. *** p<0.01, ** p<0.05, * p<0.1