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**Working Paper**

## Spillover effects of foreign monetary policy on the foreign indebtedness of banks and corporations

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**Spillover Effects of Foreign Monetary Policy on  
the Foreign Indebtedness of Banks and Corporations**

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**July 2019**

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# Spillover Effects of Foreign Monetary Policy on the Foreign Indebtedness of Banks and Corporations

Paola Morales-Acevedo (Central Bank of Colombia)\*

July 2019

## Abstract

This paper analyses the impact of foreign monetary policy — from a broad range of countries — on the foreign indebtedness of Colombian banks and corporations, and evaluates if capital controls can help to mitigate these spillover effects. The paper uses two unique loan-level datasets on cross-border lending that cover all the foreign loans granted by foreign-located financial institutions to domestically located financial and non-financial companies, respectively. The results support the existence of spillover effects of foreign monetary policy over the characteristics of cross-border loans. In particular, periods of foreign monetary policy easing (tightening) are associated with: i) increases (decreases) on the cross-border lending to banks, and decreases (increases) on the cross-border lending to corporations; and ii) decreases (increases) on the loan interest rates to banks and corporations. The paper also finds that capital controls play an important role in mitigating these spillover effects, however, their effectiveness depends on the stance of both foreign and domestic monetary policy.

**JEL classification:** E44, F34, G01

**Keywords:** cross-border lending, monetary policy, capital controls.

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## **I. Introduction**

There is extensive evidence that shows that monetary policy responses to the global financial crisis in advance economies have had important effects on emerging economies. Accommodative monetary policy prompted an increase on capital outflows<sup>1</sup>, which lead to increases in asset prices, domestic currency appreciations and changes on the availability of credit. The degree of spillovers has been found to differ between source countries. While the US monetary policy generates significant spillovers for almost all countries, the evidence is more varied for other source countries.

Currently, monetary policies in major advanced economies are gradually normalizing at different paces, and in the US a strong pro-cyclical fiscal expansion is leading to a more rapid tightening cycle. These tighter external conditions pose challenges to emerging economies and in order to choose the right policy responses, it is crucial to understand all the aspects of the spillover effects of foreign monetary policy. This paper analyzes how prolonged periods of foreign monetary policy easing (tightening) affect the cross-border lending of Colombian banks and corporations<sup>2</sup>. In addition, the paper identifies if certain borrower characteristics affect the transmission of foreign monetary policy and evaluates the effectiveness of capital controls in mitigating the effects.

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<sup>1</sup> Capital flows are largely channel through internationally active banks, which use internal or external capital markets to rebalance their international portfolio (Buch et al., 2017).

<sup>2</sup> Prolonged periods of monetary policy easing (tightening) are measured based on the extend of consecutive drops (hikes) of monetary policy rates.

There is a growing literature that analyze the international transmission of monetary policy from different perspectives. Morais et al. (2015) analyze the effect of foreign monetary policy on loans granted domestically in Mexico, a country characterized by a large presence of European and US banks. Their findings suggest that softening of foreign monetary policy increases the supply of credit of foreign banks to Mexican firms<sup>3</sup>. Using a similar approach, Dias et al. (2017) find that more accommodative monetary policy conditions in US and Europe improve the loan terms (loan amount and interest rates) of loans granted by domestic banks to domestic corporations in Colombia. Ongena et al. (2018) find for Hungary that the domestic supply of credit in foreign currency increases with a looser foreign monetary policy. Alper et al. (2018) analyze the impact of quantitative easing by the Federal Reserve (Fed), the European Central Bank (ECB) and the Bank of England (BoE) on the cross-border loans granted to Turkish banks. Their findings suggest that Fed QE boosts cross-border loans coming from the US, Euro Area and UK. In contrast, ECB and BoE QEs boost only cross-border loans coming from banks located in the Euro Area and the UK, respectively. Consistent with this, Correa and Murry (2009) analyze the outward transmission of U.S. monetary policy and find that during periods of monetary policy tightening, U.S. banks (in particular those with foreign offices) significantly reduce their cross-border claims on foreign residents, supporting the existence of a cross-border bank-lending channel. Temesvary et al. (2015) also find evidence of a global bank-lending channel. In particular, they find that U.S. monetary easing (tightening) is associated with increases (decreases) in the bilateral cross-border flows of U.S. banks in the pre and post-crisis period.

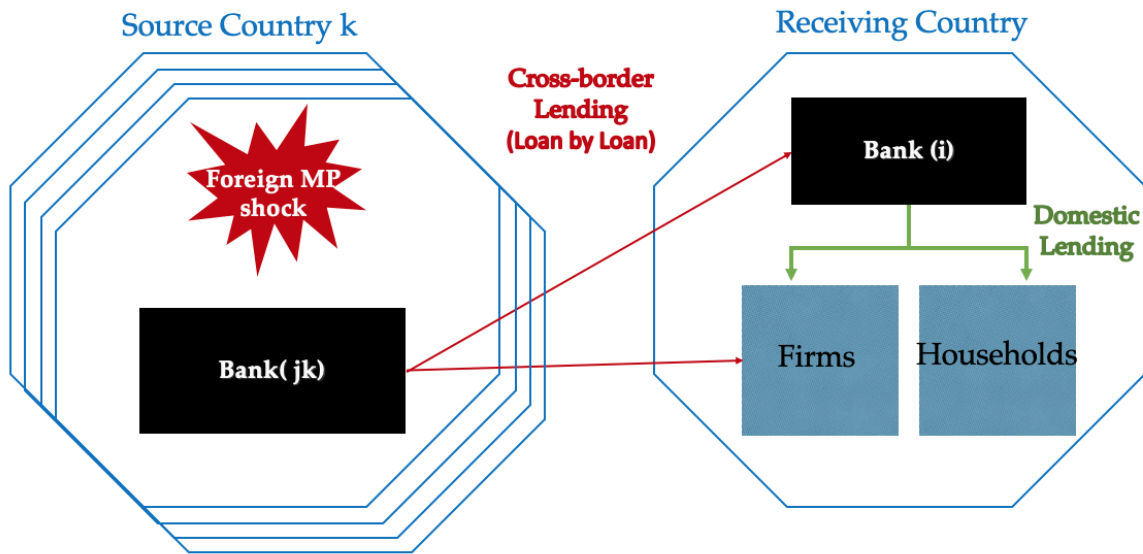
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<sup>3</sup> Morais et al. (2015) also find that this increase is disproportionately higher to borrowers with higher ex-ante loan rates that substantially default more (ex-post) on their loans, suggesting that unconventional monetary policy in foreign countries increases risk-taking in emerging markets more than it improves the real outcomes of firms.

On the other hand, Correa et al. (2015) find empirical support for the existence of an international portfolio-rebalancing channel, whereby tighter monetary policy in source countries leads to a decrease in the net worth and collateral values of domestic borrowers, which prompts banks to substitute away from domestic credit and toward foreign credit to safer locations and borrower types. Likewise, Buch et al. (2018), using the results of thirteen country individual studies on inward transmission find that, during periods of conventional monetary policy in the U.S., an increase on the shadow policy rate is more often associated with an increase on bank lending growth abroad. Their results, however, are more mixed during periods of unconventional monetary policy.

This paper contributes to the existing literature by analyzing the impact of foreign monetary policy (from a broad range of countries) on the foreign indebtedness of domestic financial and non-financial companies (red arrows in Figure 1). In contrast to the standard literature on international transmission of monetary policy, that either focus on more aggregate data or analyze mostly the effects of foreign monetary policy on domestic lending (e.g. lending of domestic banks to domestic non-financial companies), this paper uses, for the first-time, loan-level data on direct cross-border lending between foreign located banks and domestic located financial and non-financial companies. This provide for a more detail analysis and a better identification of the international transmission of monetary policy. Thus, I am able to study the first-round effects on the real sector and to identifying if certain borrower characteristics change the nature of the international transmission of monetary policy.

Figure 1



The paper also adds to the literature on capital controls, by analyzing for the first time the effect of capital controls on the characteristics of cross-border loans. This in contrast to the available literature that focus on the effect of capital controls on aggregate external borrowing, portfolio flows (e.g., Clements et al. (2009), Vargas and Varela (2008), Magud et al. (2011), Buno and Shin (2013), Edwards (2007)), domestic loans (Dias et al. (2017) and exchange rate volatility (e.g., Rincón and Toro (2010), Edwards et al. (2005)).

The results support the existence of spillover effects of foreign monetary policy. Prolonged periods of foreign monetary policy easing are associated with increases on the loan amounts of cross-border loans to banks and reductions on the loan amounts of cross-border loans to corporations. The later seems to be the result of: i) lenders' preferences, and ii) a re-composition of the pool of foreign lenders towards 'new commers' during periods of foreign monetary policy easing. Prolonged periods of foreign monetary policy easing are also associated with a decrease on the interest rates of cross-border loans to banks and corporations.

I also find evidence that certain borrower characteristics play a role on the transmission of foreign monetary policy. For instance, when foreign monetary policy is easing, there is an increase on the supply of credit to banks with higher non-performing loans and lower ROE. These results, however, seem to be also interlinked with a re-composition on the pool of lenders towards ‘newcomers’ during periods of foreign monetary policy easing.

Finally, I find that capital controls play an important role in mitigating the spillover effects of monetary policy. Their effectiveness, however, depends on the stance of both foreign and domestic monetary policy. They are also more effective in mitigating the effects over the cross-border lending to banks than the effects over the cross-border lending to corporations.

The remainder of the paper is organized in four sections. Section II describes the data and presents the evolution of the foreign indebtedness of Colombian banks and corporations. Section III presents the empirical strategy. Section IV, presents the results and section V provide some concluding remarks.

## **II. Data and Descriptive Statistics**

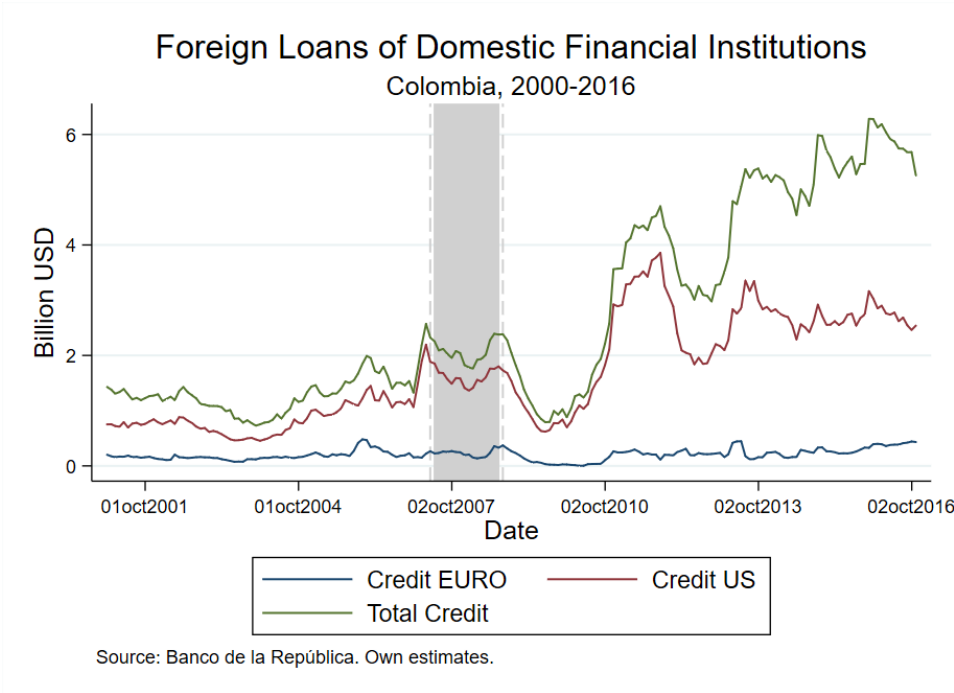
For the empirical analysis, I use two unique loan-level datasets on cross-border loans between domestic located financial and non-financial companies and foreign-based financial institutions. The information is collected by the Central Bank of Colombia for regulatory purposes. The first data set comprises around 10,000 loan observations granted to Colombian financial institutions and covers the period between 2001:Q1 and 2016:Q4 at a monthly



frequency. Among other variables, it includes the outstanding loan amount, the interest amount, the name and identification of the domestic financial institution and the name and swift code of foreign located financial institutions. Loans are granted by bank branches located in 36 different countries, with United States having the largest number of observations followed by Germany, Canada and United Kingdom.

Figure 2 presents the evolution of the total foreign indebtedness of domestically located financial institutions. The red and blue lines represent the total credit from United States and the European Union, respectively. The gray area, on the other hand, denotes the period in which capital controls were put in place in Colombia. The foreign indebtedness amounted to 1.4 billion USD in 2002 representing about 6.2 percent of banks liabilities. By the end of 2016 it reached 5.6 billion USD, but its participation on the liabilities of banks decreased to 2.6 percent.

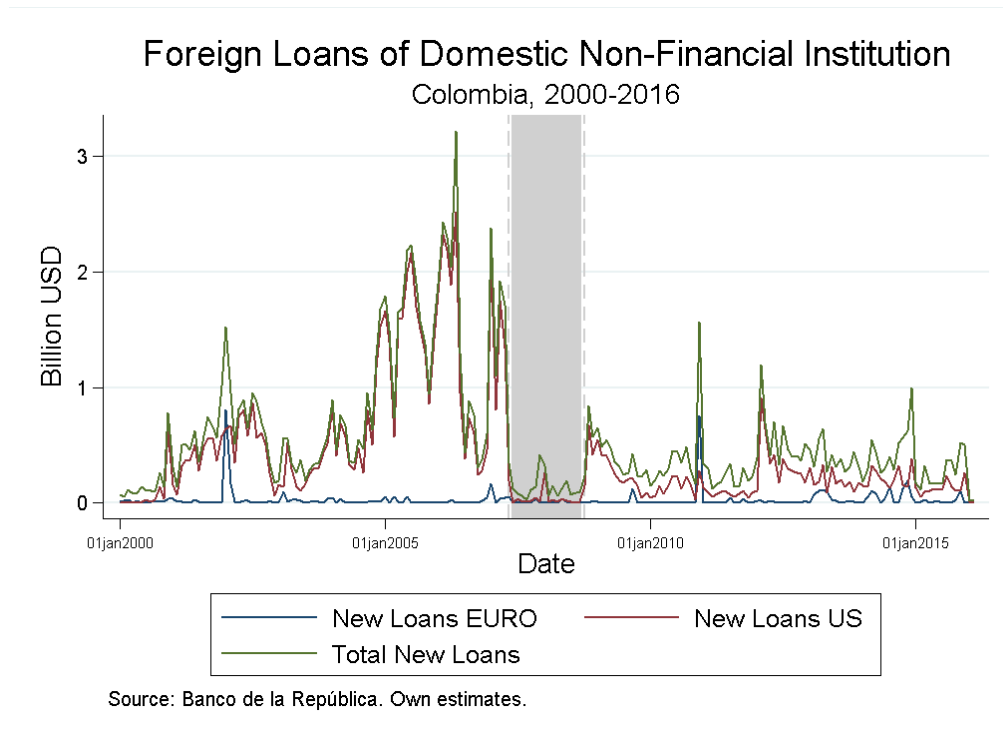
**Figure 2**



The second dataset comprises around 12,000 new loan granted to Colombian non-financial companies by foreign-based financial institutions. It covers the period between 2000:Q1 and 2015:Q4 at a monthly frequency. In contrast to the dataset on financial institutions, it does not include the outstanding amount, but the amount of new loans. It also includes the maturity, the rate, the purpose of the loan, the name and identification of the domestic company and the name and country of the foreign financial institution that is granting the loan. Bank branches located in 29 different countries grant the loans. The United States is again the country with the highest participation (56 percent), followed by Bahamas, United Kingdom, Germany and the Netherlands.

Figure 3, presents the evolution of foreign loan disbursements to non-financial companies. The total foreign new loans amounted to 0.7 billion USD at the end of 2000 and reached more than 2 billion USD in 2006. However, after the introduction of the capital controls in 2017 they fell significantly, reaching 0.6 billion USD at the end of 2014. The average (medium) participation of new loans over the assets of non-financial companies during the sample period was 7.1 (3.3) percent. Note that the large volatility is evidenced in both graphs, while a clear positive tendency is observed for the foreign loans to domestic banks. This highlights the increasing importance of foreign loans as a source of funding for domestic banks.

Figure 3



Along with these two datasets, I use information of financial statements of domestic financial institutions and of non-financial companies provided by the *Superintendencia Financiera de Colombia* and the *Superintendencia de Supersociedades*, respectively. Information on the financial statements of foreign financial institutions is extracted from Orbis. In addition, I use information of sovereign bond yields from all the source countries, to construct my preferred measure of monetary policy, explained in detail in the next section<sup>4</sup>. Finally, I use a set of foreign and domestic macroeconomic variables that include nominal exchange rates, GDP growth and credit growth of the private non-financial sector.

Table 1 reports summary statistics of the variables used in the analysis. The first part of the table reports statistics on the sample of foreign loans granted to domestic financial

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<sup>4</sup> In robustness I also use changes in monetary policy rates reported by central banks around the world as well as the shadow rates estimated by Wu and Xia (2016).

institutions. The average (median) outstanding loan amount of financial institutions per relationship is 23.6 (10.0) million USD and each financial institution has on average seven relationships. The average (median) bank size, measured by total assets, is 7,730.9 (3,710.5) million USD. The average (median) liquidity, measured as cash over total assets, is 0.84 (0.57) percent, and the average (median) capital ratio, measured as equity over assets is 12.5 (11.8) percent.

The second part of the table report statistics on the sample of new foreign loans granted to domestic non-financial companies. The average (median) amount of a new loan is 8.1 (1.0) million USD and on average a firm has five new loans with one bank. The average (median) firm size is 11.4 (11.5) million USD. The average (median) debt to equity ratio is 713.4 (192.4) percent, the current ratio defined as current assets over current liabilities is 184.8 (107.7) percent and the return on assets is 1.1 (1.3) percent.

The third part of Table 1 presents the summary statistics of foreign and domestic monetary and macroeconomic variables. While the mean domestic monetary policy rate is equal to 6.4 percent, the average foreign monetary policy rate is equal to 2.9 percent. On the other hand, the mean GDP growth of foreign countries over the sample period (2.02 percent) is twice the domestic GDP growth (1.03 percent). Finally, the growth of domestic non-financial private debt is higher in Colombia than in the lending countries.

### **III. Empirical Analysis**

The empirical analysis is divided in three parts. In the first part, I analyze if cross-border lending to domestic banks and domestic corporations is affected by periods of foreign monetary policy easing (tightening). In the second part, I analyze if the supply of foreign

loans depends on certain borrower characteristics. Finally, in the third part, I analyze if capital controls mitigate the spillover effects of foreign monetary policy.

- i. Does foreign monetary policy affect the level of foreign indebtedness of domestic banks and domestic corporations?*

The growing literature on international transmission of monetary policy has found mixed results with respect to its impact on domestic credit markets. Little is known, however, on the direct effects of foreign monetary policy over the cross-border lending of banks and corporations. In an attempt to close this gap, I start by estimating the following regression specification:

$$Y_{ijkt} = \beta_0 + \beta_1 \text{Cumulate Cuts}_{kt-1} + \beta_2 \text{Cumulate Cuts}_{t-1}^{COL} + \beta X_{it-1} + \gamma M_{kt-1} + \rho M_{t-1} + \theta_i + \theta_j + \theta_s + \epsilon_{ijkt} \quad (1)$$

where  $i$  indicates either domestic banks or corporation (borrower),  $j$  foreign based bank (lender),  $k$  country of origin of foreign based bank and  $t$  time at a monthly frequency.  $Y_{ijkt}$  represents the monthly change on the log loan amount ( $\Delta \ln(\text{loan amount}_{ijkt})$ ) when the dataset of financial companies is used, and the  $\ln(\text{loan amount}_{ijkt})$  of new loans when the dataset of non-financial companies is used.  $Y_{ijkt}$  is regressed on measures of domestic and foreign monetary policy. An array of local borrower and foreign and domestic macroeconomic variables (GDP growth, nominal exchange rate and credit growth) are also included. The dimensionality of the dataset allows for the use of different types of fixed

effects, which are crucial to control for unobservable variation at a borrower, lender<sup>5</sup>, relationship, time and season levels (indexed by  $s$ ).

My preferred measure of monetary policy corresponds to cumulative cuts (hikes) on the foreign/domestic policy rate<sup>6</sup>. Following the methodology employed by Cecchetti et al. (2017), I measure the extend of consecutive interest rates cuts (hikes) based on the two-year sovereign bond yield. The use of the two-year sovereign bond yields instead of the short-term interest rate is motivated by it being more informative when the zero lower bound is reached. The variable is estimated as follows:

$$Cumulative\ Cuts_t = \begin{cases} Cumulative\ Cuts_{t-1} + |MA_t - MA_{t-1}| & \text{if } MA_t < MA_{t-1} \\ 0 & \text{otherwise} \end{cases}$$

$$MA_t = \frac{1}{8} \sum_{\tau=1}^8 i_{t-\tau+1} \quad i_{t-\tau+1}: \text{two years sovereign bond yields} \quad (2)$$

Following the same approach, I construct the variable *Cumulate Hikes<sub>t</sub>*<sup>7</sup>. The mean cumulative cuts (hikes) in the source countries is 76bp (24bp) and in Colombia 103bp (40bp).

ii. *Does transmission of foreign monetary policy depend on certain borrower characteristics?*

To analyze compositional changes of credit supply, I examine if the sensitivity of foreign indebtedness to changes in foreign monetary policy depends on certain borrower ex-ante characteristics. To do so, I estimate the following regression specification:

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<sup>5</sup> Notice that lender fixed effects will also control for time invariant country characteristics.

<sup>6</sup> Results are robust to standard measures of monetary policy as well as the Wu-Xia shadow rates.

<sup>7</sup> *Cumulative Cuts<sub>t</sub>* and *Cumulate Hikes<sub>t</sub>* are built based on the absolute difference between  $MA_t$  and  $MA_{t-1}$ . Therefore, they are always positive by construction.

$$Y_{ijkt} = \alpha + \beta \text{Borrower Characteristics}_{it-1} * \text{Cumulate Cuts}_{kt-1} + \rho \text{Borrower Characteristics}_{it-1} + \theta_i + \theta_{jt} + \epsilon_{ijkt} \quad (3)$$

I include lender-time fixed effects ( $\theta_{jt}$ ) to control for any observed and unobserved heterogeneity at a lender, time and lender-time level. Importantly, by including this set of fixed effects the coefficients are estimated using only the within time-lender variation. Following Khwaja and Mian (2008), this set of fixed effects control for loan supply. This allows us to identify which borrower characteristics are relevant for the transmission of foreign monetary policy. As borrower characteristics, for the sample of banks I include the log of total assets as a measure of size, cash to total assets as a measure of the liquidity, non-performing loans ratio as a measure of risk and ROE (return on equity) as a measure of profitability. For the sample of corporations, I use the log of total assets as a measure of size, the inverse of the z-score as a measure of risk, the ROE as a measure of profitability and the current ratio (current assets over current liabilities) as a measure of liquidity. See Table 1 for statistics on these variables.

*iii. Do capital controls mitigate the spillover effects of foreign monetary policy?*

Capital Controls were introduced in Colombia in May of 2007 in an attempt to limit the strong credit growth observed at the time. The main instrument used to limit inflows was the imposition of an unremunerated reserve requirement (URR) of 40 percent on foreign borrowing and portfolio inflows<sup>8</sup> of all maturities. They later were reduced to zero in October 2008<sup>9</sup>. To evaluate to what extend capital controls mitigate the spillover effects of foreign

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<sup>8</sup> The URR on portfolio inflows was later increase to 50 percent in May 2018.

<sup>9</sup> Notice that during the implementation of Capital controls, there was a simultaneous decrease on the domestic policy rate.

monetary policy, I analyze if the cross-border loan terms to banks and corporation in Colombia by estimating the following regression specification:

$$\begin{aligned}
 Y_{ijkt} = & \beta_0 + \beta_1 \text{Cumulate Cuts}_{kt-1} * KC + \beta_2 \text{Cumulate Cuts}_{t-1}^{COL} * KC + \\
 & \beta_4 \text{Cumulate Cuts}_{kt-1} + \beta_5 \text{Cumulate Cuts}_{t-1}^{COL} + KC + \beta X_{it-1} + \\
 & \gamma M_{kt-1} + \rho M_{t-1} + \theta_i + \theta_j + \theta_s + \epsilon_{ijkt}
 \end{aligned} \tag{4}$$

where  $KC$  is an indicator variable that takes the value of 1 during the period in which there were capital controls in Colombia.

#### **IV. Empirical Results**

##### *1. Effects of foreign monetary policy on cross-border loans*

I find evidence that support the existence of spillover effects of foreign monetary policy into the foreign financing of local banks and corporations. The effects are evidenced on the sensitivity of the loan amounts and the interest rates of the cross-border loans to changes in foreign monetary policy.

The results of estimating equation (1) are presented in Table 2 and suggest that consecutive periods of foreign monetary policy easing are associated with an increase on the outstanding loan amount held by domestic banks and a decrease on the loan amount granted to domestic corporations. In particular, a consecutive decrease on the foreign policy rate of 100bp translates on an increase of 1.5 percent on the monthly growth of the loan amount to domestic banks. In contrast, the same decrease on the foreign policy rate represents a decrease on the loan amount granted to corporations by -10 percent. Domestic monetary



policy easing, on the other hand, is associated with increases on the foreign lending to both local banks and local corporations.

¿Are these effects symmetric? To answer this question, I re-define the duration variables based on consecutive periods of interest rate hikes and find that the effects are indeed symmetric. However, while the coefficients for local banks lose economical and statistical significance, the coefficients for local corporations gain overall significance. In other words, cross-border loans to local banks seem to be more sensitive to periods of foreign monetary policy easing, while cross-border loans to local corporations seem to be more sensitive to periods of foreign monetary policy tightening (see Table 3).

The results also suggest that periods of foreign monetary policy easing (tightening) are associated with decreases (increases) on the cost of foreign indebtedness for both local banks and local firms. In particular, consecutive decreases on the foreign monetary policy rate of 100bp translate into a decrease of about 38bp on the loan interest rates charged to banks and of 43bp on the loan rates charge to corporations. On the other hand, a consecutive increase on the foreign monetary policy rate is associated with an increase on the loan interest rate of 50 bp to banks and of 130bp to corporations. Notice that loan interest rates are more sensitive to increases on the foreign monetary policy rate, particularly for loans granted to corporations (see Tables 4 and 5).

Why do corporations get lower (higher) loan amounts when foreign monetary policy is easing (tightening)? At a first sight, these results seem to be counter intuitive, however, they reflect the preference of foreign banks to lend to banks rather than corporations during periods of foreign monetary policy easing. Table 6 show the results obtained when joining the two datasets of cross border lending, make possible by assuming that positive changes on

the outstanding loan amounts of banks are due to loan disbursements. By including lender-month fixed effects, I retain the loan observations of loans granted by foreign banks that simultaneously lend to firms and corporations. The results suggest that the same foreign lender decrease (increase) lending to corporations during periods of foreign monetary policy easing (tightening). Besides this, I do not find evidence that the number of foreign lenders change during periods of foreign monetary policy easing. However, I do find that there is a decrease on the average age as lender, suggesting that some of the old participants exit the market and are replaced by new commers (Table 7). This might also partially explain the results, as newcomers might have a preference to lend to banks given that they are consider more transparency than corporations.

Do corporations substitute foreign borrowing by domestic borrowing during periods of monetary policy easing? To answer this question, I analyze the loan amount of domestic loans received by the corporations that are indebted abroad, making use of the Colombian credit register. I find that there is not substitution<sup>10</sup>, on the contrary, there is a decrease on the loan amount of domestic loans in foreign currency (see Table 8). However, when looking at the aggregate credit supply by domestic banks, I find evidence of an increase on the aggregate commercial portfolio (loans granted to corporations), as well as in the consumption portfolio (loans granted to households), during periods of foreign monetary policy easing<sup>11</sup>. These results suggest that banks do channel the additional funding they receive during periods of foreign monetary policy easing, to the rest of the economy. The absence of an increase on

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<sup>10</sup> When looking at the total amount of outstanding loans (in both domestic and foreign currency) granted to the set of firms that are indebted abroad, I do not find significant results.

<sup>11</sup> Given the degree of aggregation in this exercise, I use as a foreign monetary policy measure the one of the US, as it is the country with the largest participation in the cross-border lending.

the domestic borrowing of the sample of corporations that are also indebted abroad, might be related to the fact that a large fraction of these firms are exporters and they might be negatively affected by large appreciations of the Colombian peso when foreign monetary policy is easing.

## 2. *Role of borrower characteristics:*

I then turn to analyze whether certain borrower characteristics contribute to explain the terms of cross-border loans and affect the transmission of foreign monetary policy on the foreign indebtedness of firms and corporations.

The results of estimating equation (2) for the growth of the loan amount granted to banks are presented in Table 9 (Panel A) and suggest that banks with a higher non-performing loan ratio (NPL) get less foreign funding, while banks with a high ROE get more. In particular, an increase on the NPL by 1 percent translates on a decrease of 1.3 percent on the monthly growth of the loan amount and an increase on the ROE by 1 percent translates on an increase of 0.02 percent. However, during prolonged periods of foreign monetary policy easing, the sensitivity of foreign banks to NPLs decreases considerably. The combine effect of an increase on the NPL by 1 percent and a consecutive decrease on the foreign interest rate of 100bp (200bp), results on a decrease on the monthly growth of the loan amount of -0.76 (-0.21) percent. For consecutive decreases on the foreign policy rate of more than 250bp, the resulting effect is an increase on the monthly growth of the loan amount, regardless of the magnitude of the increase on the NPL.

Consistent with this, I find that loan interest rates are higher for banks with higher NPL and lower for banks with higher ROE (see Panel B). In particular, an increase by 1

percent on the NPL (ROE) translates in an increase (decrease) of 47pb (1.6bp) on the loan interest rates. However, these sensitivities decrease during periods of foreign monetary policy easing. For instance, the combined effect of an increase of 1 percent on the NPLs and a cumulative decrease on the foreign monetary policy rate of 100pb (200bp) results on an increase on the loan rate of 40.6bp (33.7bp). On the other hand, the combined effect of an increase of 1 percent in the ROE and a cumulative decrease on the foreign monetary policy rate of 50pb translates on a decrease on the loan rate of just 0.05bp. For cumulative decreases on the policy rate of more than 60pb, increases on the ROE are accompanied with increases in the loan rate.

A lower sensitivity of the terms of cross-border loans to increases in NPLs, during periods of foreign monetary policy easing, could be due to the arrival of foreign banks with less ‘expertise’ on the Colombian market during those periods. To analyze if this is the case, I include a triple interaction term with the natural logarithm of the number of months a particular foreign bank has been lending to Colombian banks, as a proxy of ‘expertise’. The average (median) foreign bank an age as lender of 55 (42) months. The estimated model looks as follows:

$$\begin{aligned}
 Y_{ijkt} = & \alpha + \delta \text{Borrower Characteristics}_{it-1} * \text{Cumulative Cuts}_{kt-1} * \text{Ln(Age as Lender)}_{jt-1} \\
 & + \beta \text{Borrower Characteristics}_{it-1} * \text{Cumulative Cuts}_{kt-1} \\
 & + \gamma \text{Borrower Characteristics}_{it-1} * \text{Ln(Age as Lender)}_{jt-1} \\
 & + \rho \text{Borrower Characteristics}_{it-1} + \theta_i + \theta_{jt} + \epsilon_{ijkt}
 \end{aligned} \tag{5}$$

The results, presented in Table 10, reveal that indeed the sensitivity is less affected when the loans are granted by foreign banks that have a higher ‘expertise’ in the Colombian market. This is evidenced by the negative coefficient of the triple interaction with NPLs on

the model over loan amount (Panel A), and by the positive coefficient of the same triple interaction when the model is over the interest rate (Panel B). Notice that the sensitivity of the loan interest rate to changes in the ROE, reported before, also decreases when the foreign bank granting the loan has a higher ‘expertise’. These results seem to indicate that while more ‘expert’ lenders are better able to differentiate between good and bad borrowers, less ‘expert’ lenders seem to pool all the borrowers together which leads to an improvement on the loan terms received by relatively bad borrowers (with higher NPLs and lower ROEs) in a detriment of the loan terms received by relatively good borrowers, during periods of foreign monetary policy easing.

When interacting the borrower characteristics with *Cumulative Hikes* (instead of *Cumulative Cuts*) I find that during prolonged periods of foreign monetary policy tightening, banks with more Liquidity and a higher ROE experience an increase on their loan amounts; while banks with a higher NPL get higher loan interest rates (see Table 11). Unreported results also reveal that the increase on the loan amounts of borrowers with more liquidity and higher ROE are driven by more ‘expert’ foreign banks. They also seem to provide lending at a lower cost during periods of monetary policy tightening to banks with a higher ROE.

*What is the role of borrower characteristics on the terms of cross border loans to corporations?* The results of estimating equation (2) for corporations, presented in Table 12, suggest that larger firms get larger loan amounts and riskier firms, proxied by the inverse of the z-score, get loans with a higher interest rate. The results also suggest that during periods of foreign monetary policy easing, more profitable firms get lower loan amounts and higher interest rates. However, I do not find any evidence that these sensitivities vary depending on the degree of ‘expertise’ of the foreign bank. On the other hand, I find that during periods of

monetary policy tightening, firms with bad records on the credit bureau get lower loan amount, particularly when the loan is granted by a foreign bank with more ‘expertise’ (unreported results).

### 3. *Role of Capital Controls*

Capital controls do seem to play an important role in mitigating the spillover effects of monetary policy. Their effectiveness, however, depends on the stance of both foreign and domestic monetary policy. They are also more effective in mitigating the effects over the cross-border lending to banks than the effects over the cross-border lending to corporations. Results of estimating equation (3) are presented through Tables 13 to 16.

When capital controls are in place, the foreign indebtedness of banks and firms is reduced (Tables 13 and 14) and the cost of credit increases (Tables 15 and 16). For banks, the growth on the loan amount decreases between -8.3 percent and -11.8 percent (Table 13. Panel A); and for firms, the loan amount decreases between -36.9 percent and -43.2 percent, although the coefficients are not statistically significant (Table 13. Panel B). The interest rates, on the other hand, increase around 1 percent for banks and 2 percent for corporations.

The effectiveness of the capital controls, however, depends on the stance of domestic and foreign monetary policies, as evidenced by the significant coefficients of the interaction terms in Tables 13 to 16. In particular, cumulative reductions of more than 60 bp in the foreign monetary policy rate cancel out the effect of the capital controls, resulting on a net increase on the foreign indebtedness of banks. The effects of the capital controls are also cancelled out with cumulative increases on the domestic monetary policy rate of more than 1.8 pp. Similar, the increase on loan interest rates of corporation as a result of the introduction

of capital controls is reverted when the foreign monetary policy rate has a cumulative decrease of more than 1.5 pp. Finally, when capital controls are in place, loan interest rates of banks and corporations are less sensitive to periods of foreign monetary policy tightening, as evidenced by the coefficients of similar magnitude but opposite sign of the foreign monetary policy measure and its interaction with capital controls in Table 16.

#### **4. Conclusions**

This paper analyses the impact of foreign monetary policy on the cross-border supply of credit, by using two unique loan level datasets that covers all the loans granted by foreign located banks to domestic located banks and corporations. The richness of the dataset, allows to analyze the role of certain borrower characteristics on the international transmission of monetary policy. In addition, the paper assesses the effectiveness of capital controls in mitigating the effects of foreign monetary policy on the external borrowing of banks and corporations.

I find evidence that support the existence of spillover effects of foreign monetary policy into the foreign lending of local banks and corporations. The effects are evidenced on the sensitivity of the loan amounts and the interest rates of the cross-border loans to foreign monetary policy. Prolonged periods of foreign monetary policy easing (tightening) are associated with increases (decreases) on the cross-border lending to local banks and decreases (increases) on the cross-border lending to local corporations. This seems to be the result of lender's preferences and a change on the composition of lenders, from 'experts' to 'newcomers' during periods of foreign monetary policy easing. Prolonged periods of foreign

monetary policy easing (tightening) are also associated to decreases (increases) on the loan interest rates granted to local banks and local corporations.

I also find evidence that certain borrower characteristics play an important role on the transmission of foreign monetary policy. In particular, during periods of foreign monetary policy easing, banks with higher NLP and lower ROE receive better loan conditions. This seems to be also related to a change in the compositions of lenders during periods of foreign monetary policy easing. While ‘experts’ are better able to differentiate between good and bad borrowers, ‘newcomers’ tend to pool their borrowers, which reduce the gap between the loan terms received by good and bad borrowers.

Finally, I find that capital controls play an important role in mitigating the spillover effects of monetary policy. Their effectiveness, however, depends on the stance of both foreign and domestic monetary policy. They are also more effective in mitigating the effects over the cross-border lending to banks than the effects over the cross-border lending to corporations.



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**TABLE 2. Summary Statistics**

The table provides the definition of the variables used in each of the samples of cross-border loans: i) to banks, ii) to corporations, as well as the definition of foreign and domestic monetary policy and macroeconomic variables. The mean, median and standard deviation are presented for every variable.

Data set	Variable	Definition	Frequency	Unit	N	Mean	Median	SD
Sample of loans granted to domestic <b>Banks</b>	Loan Amount	Outstanding foreign loans by foreign bank j to domestic bank i at time t.	Monthly	Mn USD	11753	23,6	10,0	41,8
	Δ Log Loan Amount	Change in the logarithm of outstanding foreign loans by foreign bank j to domestic bank i at time t.	Monthly	-	11753	-0.07	-0.03	3.24
	Bank assets	Total assets of domestic bank i.	Monthly	Mn USD	11753	7.730,9	3.710,5	9.660,3
	Bank Size	The natural logarithm of total assets of domestic bank i.	Monthly	-	11753	22.83	22.84	1.31
	Liquidity	=Cash/Total Assets	Monthly	%	11753	0.84	0.57	0.89
	Capital Ratio	=Equity/Total Assets	Monthly	%	11753	12.49	11.8	5.09
Sample of loans granted to domestic <b>Corporations</b>	Loan Amount	Loan amount granted to domestic firm i by foreign bank j at time t.	Monthly	Mn USD	12.255	8.05	1	21.79
	Firm assets	Total assets of domestic firm i.	Yearly	Mn USD	12.255	196.25	41.98	705.2
	Firm Size	The natural logarithm of total firm assets	Yearly	-	12.255	11.42	11.47	1.62
	Debt to Equity Ratio	= Liabilities/Equity	Yearly	%	12.255	723.41	192.43	1180.3
	Current Ratio (CR)	= Current Assets/Current Liabilities	Yearly	%	12.255	184.78	107.68	547.47
	Return on Assets	= Net Income/Total Assets	Yearly	%	12.255	1.1	1.31	10.33
Foreign and Domestic Monetary and Macroeconomic Policy variables	Cumulative Cuts (k, t)	Cumulative cuts on the monetary policy rate of country k in time t.	Monthly	%	1.804	0.76	0.17	1.17
	Cumulative Hikes (k, t)	Cumulative hikes on the monetary policy rate of country k in time t.	Monthly	%	190	0.24	0.00	0.58
	Cumulative Cuts (COL, t)	Cumulative cuts on the Colombian monetary policy rate in time t.	Monthly	%	1.804	1.03	0.26	1.48
	Cumulative Hikes (COL, t)	Cumulative hikes on the Colombian monetary policy rate in time t.	Monthly	%	190	0.40	0.00	0.81
	GDP growth (kt)	GDP growth of country k	Monthly	%	1804	2.02	1.1	4
	Nominal exchange rare (kt)	Nominal exchange rate of country k at time t.	Monthly	-	1804	201.03	1.1	1949.98
	Credit growth (kt)	Credit growth of private non-financial sector in country k at time t.	Monthly	%	1804	0.07	0.07	0.1
	GDP growth (t)	GDP growth of Colombia at time t.	Monthly	%	190	1.03	1	0.88
	Nominal exchange rare (t)	Nominal exchange rate of Colombia at time t.	Monthly	-	190	2271.06	2268.65	402.77
Credit growth (t)	Credit growth of private non-financial sector in Colombia at time t.	Monthly	%	190	0.1	0.1	0.13	

**TABLE 2. Effects of Foreign Monetary Policy Easing**

The table reports regression results from specification (1). The dependent variable ( $\Delta \ln(\text{loan amount})$  or  $\ln(\text{loan amount})$ ) is regressed on the foreign and domestic monetary policy measure. The monetary policy measure used is Cumulative Cuts, which corresponds to the sum of cumulative drops on the interest rate and it is calculated as shown in equation (2). Borrower characteristics and domestic and foreign macroeconomic variables are included as controls. Columns (I-V) include different combinations of fixed effects. Definitions of the variables can be found in the Table 1. Coefficients are listed in the first row, robust standard errors that are corrected for clustering at the lender level are reported in the row below in parentheses, and the corresponding significance levels are in the adjacent column. Note: \*\*\* Significant at 1%, \*\* significant at 5%, \* significant at 10%.

**PANEL A. Foreign loans to Domestic Banks**

Dependent Variable	$\Delta \text{Log Loan Amount}$					
	Models	I	II	III	IV	V
Cumulative Cuts (k, t-1)		0.015*** (0.005)	0.012** (0.005)	0.015*** (0.005)	0.019*** (0.006)	0.015*** (0.005)
Cumulative Cuts (COL, t-1)		0.011** (0.004)	0.012** (0.005)	0.006 (0.005)	0.005 (0.005)	0.006 (0.005)
Observations		8,373	8,373	8,275	8,289	8,274
R-squared		0.010	0.011	0.013	0.037	0.022
Borrower Characteristics		NO	YES	YES	YES	YES
Domestic Macroeconomic Characteristics		NO	NO	YES	YES	YES
Foreign Macroeconomic Characteristics		NO	NO	YES	YES	YES
Borrower FE		YES	YES	YES	NO	NO
Lender FE		YES	YES	YES	NO	YES
Relationship FE		NO	NO	NO	YES	NO
Seasonal FE		YES	YES	YES	YES	NO
Borrower X Seasonal FE		NO	NO	NO	NO	YES
Cluster		Lender	Lender	Lender	Lender	Lender

**PANEL B. Foreign loans to Domestic Corporations**

Dependent Variable	Log Loan Amount (New Loans)					
	Models	I	II	III	IV	V
Cumulative Cuts (k, t-1)		-0.139** (0.055)	-0.110* (0.056)	-0.100** (0.045)	-0.103** (0.046)	-0.107** (0.043)
Cumulative Cuts (COL, t-1)		0.102*** (0.037)	0.093*** (0.035)	0.088*** (0.028)	0.093*** (0.030)	0.097*** (0.024)
Observations		6,795	6,795	6,785	7,096	6,275
R-squared		0.729	0.735	0.743	0.759	0.765
Borrower Characteristics		NO	YES	YES	YES	YES
Domestic Macroeconomic Characteristics		NO	NO	YES	YES	YES
Foreign Macroeconomic Characteristics		NO	NO	YES	YES	YES
Borrower FE		YES	YES	YES	NO	NO
Lender FE		YES	YES	YES	NO	YES
Relationship FE		NO	NO	NO	YES	NO
Seasonal FE		YES	YES	YES	YES	NO
Borrower X Seasonal FE		NO	NO	NO	NO	YES
Cluster		Lender	Lender	Lender	Lender	Lender

**TABLE 3. Effects of Foreign Monetary Policy Tightening**

The table reports regression results from specification (1). The dependent variable ( $\Delta \ln(\text{loan amount})$  or  $\ln(\text{loan amount})$ ) is regressed on the foreign and domestic monetary policy measure. The monetary policy measure used is Cumulative Hikes, which corresponds to the sum of cumulative rises on the interest rate and it is calculated as in the same spirit of equation (2). Borrower characteristics and domestic and foreign macroeconomic variables are included as controls. Columns (I-V) include different combinations of fixed effects. Definitions of the variables can be found in the Table 1. Coefficients are listed in the first row, robust standard errors that are corrected for clustering at the lender level are reported in the row below in parentheses, and the corresponding significance levels are in the adjacent column. Note: \*\*\* Significant at 1%, \*\* significant at 5%, \* significant at 10%.

**PANEL A. Foreign loans to Domestic Banks**

Dependent Variable	$\Delta \text{Log Loan Amount}$					
	Models	I	II	III	IV	V
Cumulative Hikes (k, t-1)		-0.004 (0.011)	-0.009 (0.012)	-0.011 (0.012)	-0.023* (0.014)	-0.012 (0.011)
Cumulative Hikes (COL, t-1)		0.002 (0.009)	-0.006 (0.010)	0.003 (0.012)	-0.001 (0.013)	0.001 (0.012)
Observations		8,373	8,373	8,275	8,289	8,274
Adjusted R-squared		0.008	0.010	0.013	0.036	0.022
Borrower Characteristics		NO	YES	YES	YES	YES
Domestic Macroeconomic Characteristics		NO	NO	YES	YES	YES
Foreign Macroeconomic Characteristics		NO	NO	YES	YES	YES
Borrower FE		YES	YES	YES	NO	NO
Lender FE		YES	YES	YES	NO	YES
Relationship FE		NO	NO	NO	YES	NO
Seasonal FE		YES	YES	YES	YES	NO
Borrower X Seasonal FE		NO	NO	NO	NO	YES
Cluster		Lender	Lender	Lender	Lender	Lender

**PANEL B. Foreign loans to Domestic Corporations**

Dependent Variable	Log Loan Amount (New Loans)					
	Models	I	II	III	IV	V
Cumulative Hikes (k, t-1)		0.236 (0.146)	0.209 (0.142)	0.225** (0.097)	0.240** (0.102)	0.247*** (0.084)
Cumulative Hikes (COL, t-1)		-0.085* (0.049)	-0.053 (0.053)	-0.038 (0.052)	-0.035 (0.057)	-0.021 (0.047)
Observations		6,795	6,795	6,785	7,096	6,275
Adjusted R-squared		0.721	0.731	0.742	0.758	0.765
Borrower Characteristics		NO	YES	YES	YES	YES
Domestic Macroeconomic Characteristics		NO	NO	YES	YES	YES
Foreign Macroeconomic Characteristics		NO	NO	YES	YES	YES
Borrower FE		YES	YES	YES	NO	NO
Lender FE		YES	YES	YES	NO	YES
Relationship FE		NO	NO	NO	YES	NO
Seasonal FE		YES	YES	YES	YES	NO
Borrower X Seasonal FE		NO	NO	NO	NO	YES
Cluster		Lender	Lender	Lender	Lender	Lender

**TABLE 4. Effects of Foreign Monetary Policy Easing on Interest Rates**

The table reports regression results from specification (1). The dependent variable Interest Rate is regressed on the foreign and domestic monetary policy measure. The monetary policy measure used is Cumulative Cuts, which corresponds to the sum of cumulative drops on the interest rate and it is calculated as shown in equation (2). Borrower characteristics and domestic and foreign macroeconomic variables are included as controls. Columns (I-V) include different combinations of fixed effects. Definitions of the variables can be found in the Table 1. Coefficients are listed in the first row, robust standard errors that are corrected for clustering at the lender level are reported in the row below in parentheses, and the corresponding significance levels are in the adjacent column. Note: \*\*\* Significant at 1%, \*\* significant at 5%, \* significant at 10%.

**PANEL A. Foreign loans to Domestic Banks**

Dependent Variable	Interest Rate					
	Models	I	II	III	IV	V
Cumulative Cuts (k, t-1)		-0.144 (0.092)	-0.386*** (0.071)	-0.387*** (0.071)	-0.439*** (0.063)	-0.386*** (0.072)
Cumulative Cuts (COL, t-1)		0.055 (0.080)	0.012 (0.080)	-0.032 (0.069)	-0.063 (0.077)	-0.028 (0.069)
Observations		4,882	4,882	4,803	4,815	4,799
Adjusted R-squared		0.377	0.431	0.441	0.548	0.450
Borrower Characteristics		NO	YES	YES	YES	YES
Domestic Macroeconomic Characteristics		NO	NO	YES	YES	YES
Foreign Macroeconomic Characteristics		NO	NO	YES	YES	YES
Borrower FE		YES	YES	YES	NO	NO
Lender FE		YES	YES	YES	NO	YES
Relationship FE		NO	NO	NO	YES	NO
Seasonal FE		YES	YES	YES	YES	NO
Borrower X Seasonal FE		NO	NO	NO	NO	YES
Cluster		Lender	Lender	Lender	Lender	Lender

**PANEL B. Foreign loans to Domestic Corporations**

Dependent Variable	Interest Rate (New Loans)					
	Models	I	II	III	IV	V
Cumulative Cuts (k, t-1)		-0.422*** (0.092)	-0.410*** (0.061)	-0.431*** (0.058)	-0.423*** (0.061)	-0.470*** (0.058)
Cumulative Cuts (COL, t-1)		0.369*** (0.128)	0.350*** (0.123)	0.331** (0.140)	0.331** (0.152)	0.381** (0.155)
Observations		6,795	6,795	6,785	7,096	6,275
Adjusted R-squared		0.771	0.780	0.791	0.836	0.824
Borrower Characteristics		NO	YES	YES	YES	YES
Domestic Macroeconomic Characteristics		NO	NO	YES	YES	YES
Foreign Macroeconomic Characteristics		NO	NO	YES	YES	YES
Borrower FE		YES	YES	YES	NO	NO
Lender FE		YES	YES	YES	NO	YES
Relationship FE		NO	NO	NO	YES	NO
Seasonal FE		YES	YES	YES	YES	NO
Borrower X Seasonal FE		NO	NO	NO	NO	YES
Cluster		Lender	Lender	Lender	Lender	Lender

**TABLE 5. Effects of Foreign Monetary Policy Tightening on Interest Rates**

The table reports regression results from specification (1). The dependent variable Interest Rate is regressed on the foreign and domestic monetary policy measure. The monetary policy measure used is Cumulative Hikes, which corresponds to the sum of cumulative rises on the interest rate and it is calculated as in the same spirit of equation (2). Borrower characteristics and domestic and foreign macroeconomic variables are included as controls. Columns (I-V) include different combinations of fixed effects. Definitions of the variables can be found in the Table 1. Coefficients are listed in the first row, robust standard errors that are corrected for clustering at the lender level are reported in the row below in parentheses, and the corresponding significance levels are in the adjacent column. Note: \*\*\* Significant at 1%, \*\* significant at 5%, \* significant at 10%.

**PANEL A. Foreign loans to Domestic Banks**

Dependent Variable	Interest Rate					
	Models	I	II	III	IV	V
Cumulative Hikes (k, t-1)		0.642*** (0.165)	0.442** (0.177)	0.503*** (0.170)	0.607*** (0.176)	0.524*** (0.172)
Cumulative Hikes (COL, t-1)		0.388** (0.166)	0.076 (0.119)	-0.081 (0.105)	-0.088 (0.113)	-0.054 (0.110)
Observations		4,882	4,882	4,803	4,815	4,799
Adjusted R-squared		0.384	0.423	0.435	0.541	0.445
Borrower Characteristics		NO	YES	YES	YES	YES
Domestic Macroeconomic Characteristics		NO	NO	YES	YES	YES
Foreign Macroeconomic Characteristics		NO	NO	YES	YES	YES
Borrower FE		YES	YES	YES	NO	NO
Lender FE		YES	YES	YES	NO	YES
Relationship FE		NO	NO	NO	YES	NO
Seasonal FE		YES	YES	YES	YES	NO
Borrower X Seasonal FE		NO	NO	NO	NO	YES
Cluster		Lender	Lender	Lender	Lender	Lender

**PANEL B. Foreign loans to Domestic Corporations**

Dependent Variable	Interest Rate (New Loans)					
	Models	I	II	III	IV	V
Cumulative Hikes (k, t-1)		1.463*** (0.162)	1.418*** (0.132)	1.364*** (0.125)	1.352*** (0.136)	1.423*** (0.101)
Cumulative Hikes (COL, t-1)		0.011 (0.161)	0.033 (0.141)	0.007 (0.136)	-0.000 (0.140)	-0.001 (0.143)
Observations		6,795	6,795	6,785	7,096	6,275
Adjusted R-squared		0.824	0.833	0.841	0.878	0.870
Borrower Characteristics		NO	YES	YES	YES	YES
Domestic Macroeconomic Characteristics		NO	NO	YES	YES	YES
Foreign Macroeconomic Characteristics		NO	NO	YES	YES	YES
Borrower FE		YES	YES	YES	NO	NO
Lender FE		YES	YES	YES	NO	YES
Relationship FE		NO	NO	NO	YES	NO
Seasonal FE		YES	YES	YES	YES	NO
Borrower X Seasonal FE		NO	NO	NO	NO	YES
Cluster		Lender	Lender	Lender	Lender	Lender

**TABLE 6. Effects of Foreign Monetary Policy Easing (Join exercise)**

The table reports results estimated over the join sample that covers the two datasets of cross border lending. The dependent variable  $\ln(\text{loan amount})$  is regressed on the foreign and domestic monetary policy measures, and the interaction between the monetary policy and an indicator variable that takes the value of one if the loan is granted to a corporation and zero otherwise. The monetary policies measured used are Cumulative Cuts (Hikes), which corresponds to the sum of cumulative drops (hikes) on the interest rate and it is calculated as shown in equation (2). Borrower and Lender x Month fixed effects are included in all the specifications. Coefficients are listed in the first row, robust standard errors that are corrected for clustering at the lender level are reported in the row below in parentheses, and the corresponding significance levels are in the adjacent column. Note: \*\*\* Significant at 1%, \*\* significant at 5%, \* significant at 10%.

Dependent Variable	Log Loan Amount (New Loans)				
	Models	I	II	III	IV
Cumulative Cuts (k, t-1)*Firm		0.060 (0.072)	-0.050** (0.021)		
Cumulative Cuts (COL, t-1)*Firm		-0.063 (0.064)	-0.014 (0.037)		
Cumulative Hikes (k, t-1)*Firm				-0.056 (0.140)	0.074 (0.064)
Cumulative Hikes (COL, t-1)*Firm				-0.061 (0.213)	-0.076 (0.092)
Firm		-0.496 (0.351)		-0.488 (0.301)	
Observations		7,654	4,962	7,654	4,962
R-squared		0.653	0.726	0.652	0.726
Borrower FE		YES	YES	YES	NO
Lender X Month FE		YES	YES	YES	NO
Cluster		Lender	Lender	Lender	Lender

**TABLE 7. Effects of Foreign Monetary Policy Easing on the Age as Lender**

The table reports regression results from a specification that takes as a dependent variable the *Age as Lender* in Colombia of each foreign banks at time t. The dependent variable is regressed on the Cumulative Cuts, which corresponds to the sum of cumulative drops on the interest rate and it is calculated as shown in equation (2). Country and Lender fixed effects are included in some specifications. Definitions of the variables can be found in the Table 1. Coefficients are listed in the first row, robust standard errors that are corrected for clustering at the lender level are reported in the row below in parentheses, and the corresponding significance levels are in the adjacent column. Note: \*\*\* Significant at 1%, \*\* significant at 5%, \* significant at 10%.

Dependent Variable	Age as Lender			
	Models	I	II	III
Cumulative Cuts (US, t-1)		-2.310* (1.133)	-3.637*** (0.470)	-4.106*** (0.601)
Constant		41.930*** (6.510)	43.084*** (0.408)	43.491*** (0.522)
Observations		4,549	4,549	4,549
R-squared		0.005	0.106	0.531
Country FE		NO	YES	NO
Lender FE		NO	NO	YES
Cluster		Pais	Pais	Pais



**TABLE 8. Effects of Foreign Monetary Policy Easing on the Domestic  
Loans of Corporations**

The table reports regression results from specification (1). The dependent variable corresponds to the ln(loan amount) of new loans in foreign currency, granted by domestic banks to domestic corporations. It is regressed on the foreign and domestic monetary policy measure. The monetary policy measure used is Cumulative Cuts, which corresponds to the sum of cumulative drops on the interest rate and it is calculated as shown in equation (2). Borrower characteristics and domestic and foreign macroeconomic variables are included as controls. Columns (I-V) include different combinations of fixed effects. Definitions of the variables can be found in the Table 1. Coefficients are listed in the first row, robust standard errors that are corrected for clustering at the lender level are reported in the row below in parentheses, and the corresponding significance levels are in the adjacent column. Note: \*\*\* Significant at 1%, \*\* significant at 5%, \* significant at 10%.

Dependent Variable	Loan Amount					
	Models	I	II	III	IV	V
Cumulative Cuts (k, t-1)		-0.115*** (0.030)	-0.058** (0.025)	-0.053 (0.034)	-0.051 (0.043)	-0.044 (0.033)
Cumulative Cuts (COL, t-1)		0.025 (0.017)	0.042** (0.017)	0.008 (0.018)	0.016 (0.020)	-0.027 (0.017)
Observations		8,373	8,373	8,275	8,289	8,274
R-squared		0.010	0.011	0.013	0.037	0.022
Borrower Characteristics		NO	YES	YES	YES	YES
Domestic Macroeconomic Chara		NO	NO	YES	YES	YES
Foreign Macroeconomic Charac		NO	NO	YES	YES	YES
Borrower FE		YES	YES	YES	NO	NO
Lender FE		YES	YES	YES	NO	YES
Relationship FE		NO	NO	NO	YES	NO
Seasonal FE		YES	YES	YES	YES	NO
Borrower X Seasonal FE		NO	NO	NO	NO	YES
Cluster		Lender	Lender	Lender	Lender	Lender

**TABLE 9. Effects of Foreign Monetary Policy Easing on Loan Terms. Characteristics of Domestic Banks**

The table reports regression results from specification (3). The dependent variable ( $\Delta \ln(\text{loan amount})$  or Interest Rate) is regressed on borrower characteristics and their interaction with the foreign monetary policy measured. The monetary policy measured used is Cumulative Cuts, which corresponds to the sum of cumulative drops on the interest rate and it is calculated as shown in equation (2). Lender-Time fixed effects are included in all the specifications to control for any observed and unobserved heterogeneity at a lender, time and lender-time level. Thus, the coefficients are estimated using only the within time-lender variation. Columns (VI-X) include in addition Borrower fixed effects. Definitions of the variables can be found in the Table 1. Coefficients are listed in the first row, robust standard errors that are corrected for clustering at the lender level are reported in the row below in parentheses, and the corresponding significance levels are in the adjacent column. Note: \*\*\* Significant at 1%, \*\* significant at 5%, \* significant at 10%.

**PANEL A.  $\Delta \ln(\text{loan amount})$**

Dependent Variable	$\Delta \text{Log Loan Amount}$										
	Models	I	II	III	IV	V	VI	VII	VIII	IX	X
Bank Size(i,t-1) * Cumulative Cuts(k,t-1)		0.001 (0.011)				-0.002 (0.012)	0.001 (0.008)				-0.003 (0.009)
Bank Size(i,t-1)		0.012 (0.015)				0.015 (0.016)	-0.015 (0.053)				-0.019 (0.053)
Liquidity(i,t-1) * Cumulative Cuts(k,t-1)			-0.019 (0.093)			-0.034 (0.109)		-0.026 (0.069)			-0.043 (0.078)
Liquidity(i,t-1)			0.012 (0.220)			0.011 (0.222)		0.034 (0.231)			0.014 (0.245)
Non Performing Loans(i,t-1) * Cumulative Cuts(k,t-1)				0.358* (0.184)		0.369** (0.184)			0.540*** (0.152)		0.560*** (0.157)
Non Performing Loans(i,t-1)				-0.527 (0.437)		-0.568 (0.460)			-1.298** (0.517)		-1.325** (0.552)
Roe(i,t-1) * Cumulative Cuts(k,t-1)					0.015 (0.053)	0.006 (0.058)				0.008 (0.035)	0.005 (0.043)
Roe(i,t-1)					0.015** (0.006)	0.016** (0.007)				0.016*** (0.004)	0.015*** (0.005)
Observations		10,092	10,092	10,092	10,092	10,092	7,063	7,063	7,063	7,063	7,063
Adjusted R-squared		0.136	0.136	0.136	0.136	0.136	0.070	0.070	0.071	0.070	0.070
Borrower FE		NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
Lender FE X Time		YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Cluster		Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender

**PANEL B. Interest Rate**

Dependent Variable	Interest Rate										
	Models	I	II	III	IV	V	VI	VII	VIII	IX	X
Bank Size(i,t-1) * Cumulative Cuts(k,t-1)	-0.048 (0.262)					-0.098 (0.265)	0.010 (0.100)				0.009 (0.121)
Bank Size(i,t-1)	1.292** (0.496)					1.177*** (0.431)	1.137 (1.073)				1.115 (1.618)
Liquidity(i,t-1) * Cumulative Cuts(k,t-1)		1.222 (1.103)				0.883 (0.905)		-0.572 (0.615)			-0.775 (0.737)
Liquidity(i,t-1)		-7.662** (3.750)				-5.085 (3.487)		-2.855 (2.537)			-3.615 (4.052)
Non Performing Loans(i,t-1) * Cumulative Cuts(k,t-1)				-1.140 (4.187)		-0.606 (6.038)			-6.894*** (2.139)		-8.639*** (3.125)
Non Performing Loans(i,t-1)				31.444* (18.729)		25.568 (23.991)			47.458*** (5.597)		51.086*** (10.302)
Roe(i,t-1) * Cumulative Cuts(k,t-1)					2.432 (1.630)	1.424 (1.579)				3.349*** (0.779)	3.197*** (0.758)
Roe(i,t-1)					-0.596 (1.022)	0.612 (2.048)				-1.662* (0.866)	1.424 (0.879)
Observations	5,985	5,985	5,985	5,985	5,985	5,985	3,464	3,464	3,464	3,464	3,464
Adjusted R-squared	-0.003	-0.026	-0.003	-0.037	0.037	0.319	0.319	0.343	0.326	0.355	
Borrower FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES
Lender FE X Time	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Cluster	Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender

**TABLE 10. Effects of Foreign Monetary Policy Easing on Loan Terms. Characteristics of Domestic Banks**

The table reports regression results from specification (5). The dependent variable ( $\Delta \ln(\text{loan amount})$  or Interest Rate) is regressed on borrower characteristics, their interaction with the foreign monetary policy measured and  $\ln(\text{Age as Borrower})$ ; and the triple interaction between borrower characteristics, monetary policy and  $\ln(\text{Age as Borrower})$ . The monetary policy measured used is Cumulative Cuts, which corresponds to the sum of cumulative drops on the interest rate and it is calculated as shown in equation (2). Lender-Time fixed effects are included in all the specifications to control for any observed and unobserved heterogeneity at a lender, time and lender-time level. Thus, the coefficients are estimated using only the within time-lender variation. In addition, all the specifications include Borrower fixed effects. Definitions of the

variables can be found in the Table 1. Coefficients are listed in the first row, robust standard errors that are corrected for clustering at the lender level are reported in the row below in parentheses, and the corresponding significance levels are in the adjacent column. Note: \*\*\* Significant at 1%, \*\* significant at 5%, \* significant at 10%.

Dependent Variable	Δ Log Loan Amount					Interest Rate						
	Models	I	II	III	IV	V	VI	VII	VIII	IX	X	
Bank Size(i,t-1) * Cumulative Cuts(k,t-1) * ln(Age as Lender)	0.003 (0.009)					0.020 (0.012)	-0.621*** (0.093)				-0.761*** (0.152)	
Bank Size(i,t-1) * Cumulative Cuts(k,t-1)	-0.012 (0.034)					-0.087* (0.051)	2.479*** (0.407)				2.917*** (0.648)	
Bank Size(i,t-1) * ln(Age as Lender)	0.025 (0.016)					0.005 (0.024)	0.089 (0.559)				0.291 (0.432)	
Bank Size(i,t-1)	-0.059 (0.096)					0.037 (0.118)	0.436 (2.961)				-0.437 (2.269)	
Liquidity(i,t-1) * Cumulative Cuts(k,t-1) * ln(Age as Lender)			-0.100 (0.556)			2.603 (2.093)		-29.150 (21.533)			17.867 (27.740)	
Liquidity(i,t-1) * Cumulative Cuts(k,t-1)			-0.336 (1.842)			-11.881 (8.122)		110.551 (73.964)			-60.306 (102.981)	
Liquidity(i,t-1) * ln(Age as Lender)			-2.093 (1.489)			-4.560* (2.559)		-10.284 (8.109)			-29.604 (17.745)	
Liquidity(i,t-1)			8.243 (4.982)			19.658* (11.096)		-51.496 (39.647)			10.659 (82.086)	
Non Performing Loans(i,t-1) * Cumulative Cuts(k,t-1) * ln(Age as Lender)				-0.290 (0.309)		-0.744* (0.429)			5.846 (4.148)		17.824*** (3.855)	
Non Performing Loans(i,t-1) * Cumulative Cuts(k,t-1)				1.414 (1.173)		3.189* (1.656)			-30.140* (17.144)		-76.394*** (13.617)	
Non Performing Loans(i,t-1) * ln(Age as Lender)				0.220 (0.416)		1.267* (0.751)			11.990 (9.929)		-9.774 (13.637)	
Non Performing Loans(i,t-1)				-1.332 (1.151)		-5.208** (2.549)			15.018 (24.178)		105.007** (42.623)	
Roe(i,t-1) * Cumulative Cuts(k,t-1) * ln(Age as Lender)						-0.119 (0.226)	-0.206 (0.229)			4.702 (3.267)	6.780** (3.171)	
Roe(i,t-1) * Cumulative Cuts(k,t-1)						0.494 (0.840)	0.819 (0.829)			-15.714 (12.476)	-23.886* (12.410)	
Roe(i,t-1) * ln(Age as Lender)						0.283 (0.201)	0.335* (0.198)			-18.690*** (4.233)	-17.306*** (4.212)	
Roe(i,t-1)						-0.961 (0.867)	-1.194 (0.826)			73.928*** (18.497)	71.187*** (19.342)	
Observations	7,063	7,063	7,053	6,538	6,527			3,464	3,464	3,462	3,191	3,188
Adjusted R-squared	0.070	0.070	0.070	0.072	0.072			0.326	0.335	0.341	0.376	0.426
Borrower FE	YES	YES	YES	YES	YES			YES	YES	YES	YES	YES
Lender X Time FE	YES	YES	YES	YES	YES			YES	YES	YES	YES	YES
Cluster	Lender	Lender	Lender	Lender	Lender			Lender	Lender	Lender	Lender	Lender

**TABLE 11. Effects of Foreign Monetary Policy Tightening on Loan Terms. Characteristics of Domestic Banks**

The table reports regression results from specification (3). The dependent variable ( $\Delta \ln(\text{loan amount})$  or Interest Rate) is regressed on borrower characteristics and their interaction with the foreign monetary policy measured. The monetary policy measured used is Cumulative Hikes, which corresponds to the sum of cumulative rises on the interest rate and it is calculated as in the same spirit of equation (2). Lender-Time fixed effects are included in all the specifications to control for any observed and unobserved heterogeneity at a lender, time and lender-time level. Thus, the coefficients are estimated using only the within time-lender variation. Columns (VI-X) include in addition Borrower fixed effects. Definitions of the variables can be found in the Table 1. Coefficients are listed in the first row, robust standard errors that are corrected for clustering at the lender level are reported in the row below in parentheses, and the corresponding significance levels are in the adjacent column. Note: \*\*\* Significant at 1%, \*\* significant at 5%, \* significant at 10%.

**PANEL A.  $\ln(\text{loan amount})$**

Dependent Variable	$\Delta \text{ Log Loan Amount}$										
	Models	I	II	III	IV	V	VI	VII	VIII	IX	X
Bank Size(i,t-1) * Cumulative Hikes(k,t-1)		0.010 (0.018)				0.007 (0.020)	0.010 (0.015)				0.004 (0.014)
Bank Size(i,t-1)		0.013 (0.015)				0.011 (0.018)	0.035 (0.050)				0.029 (0.048)
Liquidity(i,t-1) * Cumulative Hikes(k,t-1)			3.724** (1.772)			4.678** (2.162)		4.280*** (1.344)			5.162*** (1.558)
Liquidity(i,t-1)			-2.162 (2.108)			-2.659 (2.394)		-2.093 (1.963)			-3.357 (2.536)
Non Performing Loans(i,t-1) *Cumulative Hikes(k,t-1)				0.172 (0.522)		0.332 (0.396)			0.039 (0.411)		0.349 (0.276)
Non Performing Loans(i,t-1)				0.199 (0.232)		0.314 (0.260)			0.255 (0.286)		0.554 (0.394)
Roe(i,t-1) * Cumulative Hikes(k,t-1)					0.164 (0.142)	0.156 (0.137)				0.192* (0.108)	0.185* (0.106)
Roe(i,t-1)					0.117 (0.140)	0.057 (0.126)				0.140 (0.122)	0.122 (0.123)
Observations		10,092	10,092	10,086	9,331	9,325	7,063	7,063	7,053	6,538	6,527
Adjusted R-squared		0.136	0.137	0.136	0.137	0.137	0.070	0.071	0.070	0.073	0.074
Borrower FE		NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
Lender FE X Time		YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Cluster		Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender

**PANEL B. Interest Rate**

Dependent Variable	Interest Rate										
	Models	I	II	III	IV	V	VI	VII	VIII	IX	X
Bank Size(i,t-1) * Cumulative Hikes(k,t-1)		0.390 (0.308)				0.385 (0.484)	0.542 (0.338)				0.582* (0.343)
Bank Size(i,t-1)		1.015*** (0.294)				1.174* (0.628)	0.458 (1.260)				-0.248 (1.244)
Liquidity(i,t-1) * Cumulative Hikes(k,t-1)			-32.362 (25.131)			4.222 (26.467)		-33.188*** (11.552)			-2.372 (11.017)
Liquidity(i,t-1)			1.842 (44.683)			-33.660 (38.582)		-77.824*** (20.680)			-119.777*** (15.177)
Non Performing Loans(i,t-1) * Cumulative Hikes(k,t-1)				1.178 (8.261)		-10.136 (25.871)			37.896*** (7.399)		32.218*** (8.979)
Non Performing Loans(i,t-1)				24.489* (12.587)		28.164** (12.395)			24.624*** (5.312)		36.941*** (6.959)
Roe(i,t-1) * Cumulative Hikes(k,t-1)					1.661 (2.011)	-0.895 (2.899)				-1.350 (1.086)	-0.016 (1.358)
Roe(i,t-1)					-0.134 (5.343)	-2.453 (6.020)				-0.307 (1.377)	2.561 (2.460)
Observations		5,985	5,985	5,983	5,522	5,520	3,464	3,464	3,462	3,191	3,188
Adjusted R-squared		-0.009	-0.041	-0.010	-0.059	0.019	0.322	0.335	0.343	0.337	0.392
Borrower FE		NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
Lender FE X Time		YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Cluster		Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender

**TABLE 12. Effects of Foreign Monetary Policy Easing on Loan Terms. Characteristics of Domestic Corporations**

The table reports regression results from specification (3). The dependent variable (ln(loan amount) or Interest Rate) is regressed on borrower characteristics and their interaction with the foreign monetary policy measured. The monetary policy measured used is Cumulative Cuts, which corresponds to the sum of cumulative drops on the interest rate and it is calculated as shown in equation (2). Lender-Time fixed effects are included in all the specifications to control for any observed and unobserved heterogeneity at a lender, time and lender-time level. Thus, the coefficients are estimated using only the within time-lender variation. Columns (VII-XII) include in addition Borrower fixed effects. Definitions of the variables can be found in the Table 1. Coefficients are listed in the first row, robust standard errors that are corrected for clustering at the lender level are reported in the row below in parentheses, and the corresponding significance levels are in the adjacent column. Note: \*\*\* Significant at 1%, \*\* significant at 5%, \* significant at 10%.

**PANEL A. ln(loan amount)**

Dependent Variable	Log Loan Amount (New Loans)												
	Models	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Firm Size(i,t-1) * Cumulative Cuts(k,t-1)		-0.007 (0.012)					-0.000 (0.016)	-0.009 (0.008)					-0.014* (0.007)
Firm Size(i,t-1)		0.250*** (0.058)					0.258*** (0.058)	0.151*** (0.057)					0.121* (0.063)
Inverse Zscore(i,t-1) * Cumulative Cuts(k,t-1)			0.589 (0.506)				0.245 (0.315)		0.357* (0.190)				-0.081 (0.098)
Inverse Zscore(i,t-1)			-0.223 (0.341)				-0.024 (0.150)		-0.169 (0.137)				0.039 (0.042)
Roe(i,t-1) * Cumulative Cuts(k,t-1)				-0.002 (0.017)			0.018 (0.025)			-0.040*** (0.005)			-0.039*** (0.007)
Roe(i,t-1)				-0.023 (0.047)			0.007 (0.080)			-0.018 (0.023)			-0.008 (0.025)
Liquidity(i,t-1) * Cumulative Cuts(k,t-1)					0.001 (0.001)		-0.003 (0.003)				-0.002** (0.001)		-0.002*** (0.001)
Liquidity(i,t-1)					-0.001** (0.000)		0.001 (0.001)				-0.001*** (0.000)		-0.001*** (0.000)
ln(delinquency days(i,t-1) )* Cumulative Cuts(k,t-1)						-0.034 (0.031)	-0.019 (0.021)					0.027 (0.030)	0.012 (0.030)
ln(delinquency days(i,t-1))						0.150* (0.080)	0.106* (0.056)					0.025 (0.052)	0.011 (0.063)
Observations		8,132	8,881	8,132	8,132	7,726	7,144	6,634	7,266	6,634	6,634	6,300	5,802
Adjusted R-squared		0.726	0.677	0.691	0.691	0.655	0.707	0.773	0.771	0.773	0.773	0.760	0.757
Borrower FE		NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES
Lender FE X Time		YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Cluster		Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender

**PANEL B. Interest Rate**

Dependent Variable	Interest Rate												
	Models	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Firm Size(i,t-1) * Cumulative Cuts(k,t-1)		-0.050 (0.046)					-0.064 (0.057)	0.014 (0.015)					0.009 (0.011)
Firm Size(i,t-1)		0.060 (0.101)					0.045 (0.110)	0.005 (0.046)					0.003 (0.046)
Inverse Zscore(i,t-1) * Cumulative Cuts(k,t-1)			-2.758 (2.020)				-1.087 (0.951)		-0.310 (0.205)				-0.276 (0.349)
Inverse Zscore(i,t-1)			1.656* (0.857)				0.972* (0.580)		0.455*** (0.100)				0.310** (0.122)
Roe(i,t-1) * Cumulative Cuts(k,t-1)				0.026 (0.040)			-0.005 (0.037)			0.019 (0.014)			0.038*** (0.013)
Roe(i,t-1)				-0.082 (0.096)			-0.077 (0.096)			-0.058* (0.032)			-0.101*** (0.014)
Liquidity(i,t-1) * Cumulative Cuts(k,t-1)					-0.001 (0.002)		-0.005 (0.004)				-0.001 (0.001)		-0.002* (0.001)
Liquidity(i,t-1)					-0.004 (0.003)		-0.001 (0.003)				0.000 (0.000)		0.001** (0.001)
ln(delinquency days(i,t-1)) * Cumulative Cuts(k,t-1)						-0.114 (0.071)	-0.111* (0.066)						-0.026 (0.026)
ln(delinquency days(i,t-1))						0.276 (0.195)	0.267 (0.191)						-0.047 (0.066)
Observations		8,132	8,881	8,132	8,132	7,726	7,144	6,634	7,266	6,634	6,634	6,300	5,802
Adjusted R-squared		0.726	0.677	0.691	0.691	0.655	0.707	0.773	0.771	0.773	0.773	0.760	0.757
Borrower FE		NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES
Lender FE X Time		YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Cluster		Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender	Lender



**TABLE 13. Effects of Foreign Monetary Policy Easing and Capital Controls**

The table reports regression results from specification (4). The dependent variable ( $\Delta \ln(\text{loan amount})$  or  $\ln(\text{loan amount})$ ) is regressed on the foreign and domestic monetary policy measure and their interaction with an indicator variable for Capital Controls. The monetary policy measure used is Cumulative Cuts, which corresponds to the sum of cumulative drops on the interest rate and it is calculated as shown in equation (2). Borrower characteristics and domestic and foreign macroeconomic variables are included as controls. Columns (I-V) include different combinations of fixed effects. Definitions of the variables can be found in the Table 1. Coefficients are listed in the first row, robust standard errors that are corrected for clustering at the lender level are reported in the row below in parentheses, and the corresponding significance levels are in the adjacent column. Note: \*\*\* Significant at 1%, \*\* significant at 5%, \* significant at 10%.

<b>PANEL A. Foreign loans to Domestic Banks</b>						
Dependent Variable	$\Delta \text{ Log Loan Amount}$					
	Models	I	II	III	IV	V
Cumulative Cuts (k, t-1)		0.015*** (0.005)	0.013** (0.005)	0.013*** (0.005)	0.017*** (0.006)	0.009* (0.005)
Cumulative Cuts (COL, t-1)		0.014*** (0.005)	0.015*** (0.006)	0.001 (0.006)	-0.003 (0.006)	-0.000 (0.005)
Cumulative Cuts (k, t-1)*KC		0.084 (0.054)	0.081 (0.054)	0.187*** (0.065)	0.189*** (0.067)	0.164*** (0.058)
KC		0.023 (0.027)	0.018 (0.027)	-0.102*** (0.031)	-0.126*** (0.033)	-0.087*** (0.030)
Observations		8,373	8,373	8,275	8,289	8,289
R-squared		0.010	0.011	0.014	0.038	0.016
<b>PANEL B. Foreign loans to Domestic Corporations</b>						
Dependent Variable	Log Loan Amount (New Loans)					
	Models	I	II	III	IV	V
Cumulative Cuts (k, t-1)		-0.034** (0.015)	-0.024* (0.013)	-0.024** (0.009)	-0.024** (0.009)	-0.022** (0.011)
Cumulative Cuts (COL, t-1)		0.026* (0.014)	0.024* (0.013)	0.020 (0.013)	0.021 (0.014)	0.027** (0.014)
Cumulative Cuts (k, t-1)*KC		0.210 (0.142)	0.171 (0.128)	0.110 (0.136)	0.115 (0.144)	0.096 (0.142)
KC		-0.706 (0.637)	-0.613 (0.580)	-0.516 (0.566)	-0.570 (0.620)	-0.452 (0.518)
Observations		6,609	6,609	6,599	6,900	6,900
R-squared		0.736	0.745	0.752	0.766	0.768
Borrower Characteristics		NO	YES	YES	YES	YES
Domestic Macroeconomic Characteristics		NO	NO	YES	YES	YES
Foreign Macroeconomic Characteristics		NO	NO	YES	YES	YES
Borrower FE		YES	YES	YES	NO	NO
Lender FE		YES	YES	YES	NO	YES
Relationship FE		NO	NO	NO	YES	NO
Seasonal FE		YES	YES	YES	YES	NO
Borrower X Seasonal FE		NO	NO	NO	NO	YES
Cluster		Lender	Lender	Lender	Lender	Lender

**TABLE 14. Effects of Foreign Monetary Policy Tightening and Capital Controls**

The table reports regression results from specification (4). The dependent variable ( $\Delta \ln(\text{loan amount})$  or  $\ln(\text{loan amount})$ ) is regressed on the foreign and domestic monetary policy measure and their interaction with an indicator variable for Capital Controls. The monetary policy measure used is Cumulative Cuts, which corresponds to the sum of cumulative drops on the interest rate and it is calculated as shown in equation (2). Borrower characteristics and domestic and foreign macroeconomic variables are included as controls. Columns (I-V) include different combinations of fixed effects. Definitions of the variables can be found in the Table 1. Coefficients are listed in the first row, robust standard errors that are corrected for clustering at the lender level are reported in the row below in parentheses, and the corresponding significance levels are in the adjacent column. Note: \*\*\* Significant at 1%, \*\* significant at 5%, \* significant at 10%.

<b>PANEL A. Foreign loans to Domestic Banks</b>					
<b>Dependent Variable</b>	<b><math>\Delta \text{Log Loan Amount}</math></b>				
Models	I	II	III	IV	V
Cumulative Hikes (k, t-1)	-0.007 (0.012)	-0.013 (0.013)	-0.006 (0.014)	-0.018 (0.016)	-0.004 (0.012)
Cumulative Hikes (COL, t-1)	-0.008 (0.012)	-0.017 (0.014)	0.005 (0.015)	0.003 (0.016)	-0.000 (0.015)
Cumulative Hikes (k, t-1)*KC	0.033 (0.031)	0.038 (0.031)	0.035 (0.031)	0.038 (0.034)	0.023 (0.032)
Cumulative Hikes (COL, t-1)*KC	0.087** (0.042)	0.094** (0.043)	0.127*** (0.046)	0.125** (0.052)	0.112** (0.049)
KC	-0.100 (0.068)	-0.114* (0.068)	-0.233*** (0.070)	-0.245*** (0.080)	-0.192** (0.075)
Observations	8,373	8,373	8,275	8,289	8,289
R-squared	0.009	0.010	0.014	0.038	0.016
<b>PANEL B. Foreign loans to Domestic Corporations</b>					
<b>Dependent Variable</b>	<b>Log Loan Amount (New Loans)</b>				
Models	I	II	III	IV	V
Cumulative Hikes (k, t-1)	0.252* (0.149)	0.222 (0.145)	0.236** (0.096)	0.249** (0.101)	0.232** (0.107)
Cumulative Hikes (COL, t-1)	-0.068*** (0.018)	-0.031 (0.027)	0.002 (0.020)	0.006 (0.020)	-0.006 (0.018)
Cumulative Hikes (k, t-1)*KC	-0.082 (0.154)	-0.077 (0.133)	-0.161 (0.122)	-0.164 (0.131)	-0.121 (0.095)
Cumulative Hikes (COL, t-1)*KC	0.064 (0.087)	-0.029 (0.085)	-0.327** (0.145)	-0.350** (0.144)	-0.225* (0.130)
KC	-0.334 (0.626)	-0.241 (0.510)	0.106 (0.373)	0.100 (0.435)	-0.077 (0.316)
Observations	6,795	6,795	6,785	7,096	7,096
R-squared	0.722	0.732	0.745	0.761	0.757
Borrower Characteristics	NO	YES	YES	YES	YES
Domestic Macroeconomic Characteristics	NO	NO	YES	YES	YES
Foreign Macroeconomic Characteristics	NO	NO	YES	YES	YES
Borrower FE	YES	YES	YES	NO	NO
Lender FE	YES	YES	YES	NO	YES
Relationship FE	NO	NO	NO	YES	NO
Seasonal FE	YES	YES	YES	YES	NO
Borrower X Seasonal FE	NO	NO	NO	NO	YES
Cluster	Lender	Lender	Lender	Lender	Lender

**TABLE 15. Effects of Foreign Monetary Policy Easing and Capital Controls**

The table reports regression results from specification (4). The dependent variable (Interest Rate) is regressed on the foreign and domestic monetary policy measure and their interaction with an indicator variable for Capital Controls. The monetary policy measure used is Cumulative Cuts, which corresponds to the sum of cumulative drops on the interest rate and it is calculated as shown in equation (2). Borrower characteristics and domestic and foreign macroeconomic variables are included as controls. Columns (I-V) include different combinations of fixed effects. Definitions of the variables can be found in the Table 1. Coefficients are listed in the first row, robust standard errors that are corrected for clustering at the lender level are reported in the row below in parentheses, and the corresponding significance levels are in the adjacent column. Note: \*\*\* Significant at 1%, \*\* significant at 5%, \* significant at 10%.

<b>PANEL A. Foreign loans to Domestic Banks</b>						
<b>Dependent Variable</b>	<b>Interest Rate</b>					
	Models	I	II	III	IV	V
Cumulative Cuts (k, t-1)		-0.124 (0.095)	-0.373*** (0.072)	-0.389*** (0.074)	-0.434*** (0.064)	-0.304*** (0.076)
Cumulative Cuts (COL, t-1)		0.119 (0.077)	0.049 (0.076)	-0.040 (0.067)	-0.036 (0.067)	-0.048 (0.072)
Cumulative Cuts (k, t-1)*KC		0.679 (0.659)	0.729 (0.645)	0.259 (0.651)	-0.328 (0.677)	0.617 (0.767)
KC		1.007*** (0.306)	0.395 (0.280)	-0.167 (0.435)	0.417 (0.507)	-0.285 (0.450)
Observations		4,882	4,882	4,803	4,815	4,815
R-squared		0.382	0.432	0.441	0.548	0.395
<b>PANEL B. Foreign loans to Domestic Corporations</b>						
<b>Dependent Variable</b>	<b>Interest Rate</b>					
	Models	I	II	III	IV	V
Cumulative Cuts (k, t-1)		-0.388*** (0.087)	-0.371*** (0.055)	-0.399*** (0.052)	-0.392*** (0.053)	-0.426*** (0.060)
Cumulative Cuts (COL, t-1)		0.422*** (0.124)	0.403*** (0.118)	0.409*** (0.132)	0.408*** (0.143)	0.498*** (0.143)
Cumulative Cuts (k, t-1)*KC		-1.471** (0.730)	-1.572** (0.779)	-0.911 (0.846)	-1.009 (0.924)	-0.811 (0.845)
KC		2.297*** (0.455)	2.305*** (0.493)	2.054*** (0.519)	2.000*** (0.599)	2.546*** (0.403)
Observations		6,795	6,795	6,785	7,096	7,096
R-squared		0.791	0.799	0.805	0.847	0.831
Borrower Characteristics		NO	YES	YES	YES	YES
Domestic Macroeconomic Characteristics		NO	NO	YES	YES	YES
Foreign Macroeconomic Characteristics		NO	NO	YES	YES	YES
Borrower FE		YES	YES	YES	NO	NO
Lender FE		YES	YES	YES	NO	YES
Relationship FE		NO	NO	NO	YES	NO
Seasonal FE		YES	YES	YES	YES	NO
Borrower X Seasonal FE		NO	NO	NO	NO	YES
Cluster		Lender	Lender	Lender	Lender	Lender

**TABLE 16. Effects of Foreign Monetary Policy Tightening and Capital Controls**

The table reports regression results from specification (4). The dependent variable (Interest Rates) is regressed on the foreign and domestic monetary policy measure and their interaction with an indicator variable for Capital Controls. The monetary policy measure used is Cumulative Hikes, which corresponds to the sum of cumulative rises on the interest rate and it is calculated as in the same spirit of equation (2). Borrower characteristics and domestic and foreign macroeconomic variables are included as controls. Columns (I-V) include different combinations of fixed effects. Definitions of the variables can be found in the Table 1. Coefficients are listed in the first row, robust standard errors that are corrected for clustering at the lender level are reported in the row below in parentheses, and the corresponding significance levels are in the adjacent column. Note: \*\*\* Significant at 1%, \*\* significant at 5%, \* significant at 10%.

<b>PANEL A. Foreign loans to Domestic Banks</b>						
Dependent Variable	Interest Rate					
	Models	I	II	III	IV	V
Cumulative Hikes (k, t-1)		0.803*** (0.185)	0.591*** (0.200)	0.719*** (0.201)	0.809*** (0.202)	0.716*** (0.199)
Cumulative Hikes (COL, t-1)		0.273 (0.165)	-0.067 (0.112)	-0.133 (0.097)	-0.175* (0.095)	0.028 (0.107)
Cumulative Hikes (k, t-1)*KC		-0.966*** (0.251)	-0.855*** (0.232)	-1.059*** (0.216)	-1.134*** (0.258)	-0.993*** (0.266)
Cumulative Hikes (COL, t-1)*KC		-0.281 (0.392)	-0.083 (0.366)	-0.480 (0.393)	-0.793* (0.442)	-0.344 (0.445)
KC		1.692*** (0.632)	1.487** (0.590)	1.599** (0.720)	2.453*** (0.894)	1.172 (0.839)
Observations		4,882	4,882	4,803	4,815	4,815
R-squared		0.388	0.427	0.438	0.544	0.395
<b>PANEL B. Foreign loans to Domestic Corporations</b>						
Dependent Variable	Interest Rate					
	Models	I	II	III	IV	V
Cumulative Hikes (k, t-1)		1.542*** (0.110)	1.497*** (0.080)	1.477*** (0.082)	1.475*** (0.082)	1.570*** (0.040)
Cumulative Hikes (COL, t-1)		-0.094 (0.105)	-0.068 (0.095)	-0.105 (0.089)	-0.105 (0.092)	-0.093 (0.100)
Cumulative Hikes (k, t-1)*KC		-1.586*** (0.236)	-1.566*** (0.225)	-1.534*** (0.219)	-1.596*** (0.223)	-1.632*** (0.176)
Cumulative Hikes (COL, t-1)*KC		-0.908*** (0.278)	-1.007*** (0.307)	-0.769*** (0.282)	-0.837*** (0.308)	-0.689** (0.319)
KC		3.775*** (0.583)	3.855*** (0.606)	3.379*** (0.556)	3.466*** (0.610)	3.644*** (0.489)
Observations		6,795	6,795	6,785	7,096	7,096
R-squared		0.850	0.857	0.861	0.895	0.881
Borrower Characteristics		NO	YES	YES	YES	YES
Domestic Macroeconomic Characteristics		NO	NO	YES	YES	YES
Foreign Macroeconomic Characteristics		NO	NO	YES	YES	YES
Borrower FE		YES	YES	YES	NO	NO
Lender FE		YES	YES	YES	NO	YES
Relationship FE		NO	NO	NO	YES	NO
Seasonal FE		YES	YES	YES	YES	NO
Borrower X Seasonal FE		NO	NO	NO	NO	YES
Cluster		Lender	Lender	Lender	Lender	Lender