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Large Foreign Banks and Small-Medium Sized Enterprises (SMEs): Friends or Foes?

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Abstract

This paper provides evidence indicating the importance of foreign banks for the industry dynamics in SME lending market. I explore such dynamics by studying interactively the impact of three aspects of the banking market structure on lending to SMEs, including bank size and its distribution, bank market concentration, and foreign bank presence in Eastern European countries. The results show that larger banks are associated with increasing lending to SMEs, but dominance of very large banks (high inequality in bank size) and high concentration are harmful to SMEs. I also find that the negative effect of dominance of large banks and concentration is largely offset, and that the positive impact of banks size is enhanced by increasing foreign bank presence. The results suggest that the industry dynamics with the presence of large foreign bank break down barriers and create more, not less, opportunities for SMEs to be financed.

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1. Introduction

Although the number of foreign banks is growing fast, arguments supporting a policy of openness to foreign participation are far from universally accepted, especially for emerging markets where banking markets are undergoing structural reforms and liberalisation. One aspect of particular concern is lending to small-medium sized enterprises (SMEs) which are argued to be the important source of growth of economy. Previous studies (See e.g. Focarelli and Pozzolo, 2000; Clarke et al., 2003, 2000; Berger et al., 2001a,b) argue that opening the

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banking market could be harmful to SMEs for the following reasons: i) foreign banks may drive out local banks who have close ties with SMEs; ii) foreign banks cherry pick large corporations ; iii) foreign banks do not have comparative advantages at providing relationship lending to SMEs based on soft information. However the above arguments ignore the possibility that the entry of foreign banks may bring competitive dynamics to the SME market segment. If the SME market segment is promising, the impacts mentioned in these views are likely to be transitory rather than permanent. For instance, while foreign banks may drive out inefficient local banks in the short run, they may also stimulate new entries. Indeed, using real sector data in the Czech Republic, Ayyagari and Kosov (2010) find that larger foreign presence stimulates the entry of domestic firms within the same industry in the Czech Republic and Kosov (2010) shows that in the long run, foreign presence increases domestic firm performance by increasing demand for domestic products and services. There is no reason to assume that similar effects should not arise in the banking sector. Moreover, the presence of foreign banks may encourage local banks that have comparative advantages to specialise in the SME market. Dong and Guo (2011) show that credit market competition may stimulate relationship lending to SMEs due to differentiation.

While recognising the important roles of local banks in supplying credit to SMEs, the motivation of this paper is to understand the importance of foreign banks for the industry dynamics in SME lending market. I explore such dynamics by studying interactively the impact of three aspects of the banking market structure on lending to SMEs: bank size and its distribution; bank market concentration; and foreign bank presence. The data sample is from major Central and Eastern European countries as banking reforms combined with financial crises in the region promoted the highest presence of foreign banks (to restructure and recapitalise the banking sectors) compared to any other regions in the world (see Bonin et al., 2010, for details). While the results show that size matters for the SME banking market in the sense that larger banks are associated with increasing lending to SMEs, high inequality of bank size (measured by the Gini Coefficient) and high concentration (measured by the HHI) are harmful to SMEs. But by allowing the effect of bank size distribution or concentration to depend on foreign bank presence, I find that the negative effects of both

concentration and inequality of bank size are largely offset by increasing foreign bank presence. The offsetting effect is more obvious in the case of inequality of bank size. Also, when the effects of bank size and foreign bank presence are allowed to depend on each other, the two effects on lending to SMEs enhance each other positively. The results therefore point toward the dynamics brought by the presence of large foreign bank creating more, not less, opportunities for financing SMEs. The implication is that the industry dynamics with the presence of foreign banks break down the barriers to lending to SMEs, possibly because foreign banks are either more willing to lend to SMEs (perhaps with more advanced risk models and other lending technologies) or they induce competition between banks of different sizes and ownerships associated with different market concentration levels, or both, thus increasing lending to SMEs. This is also consistent with the emerging survey evidence published recently. de la Torre et al. (2010) and Beck et al. (2011) show that large foreign banks have comparative advantages at lending to SMEs, including offering a wide range of products and services on a large scale, through the use of new technologies, business models, risk management systems and combining and integrating centralised and decentralised processes as appropriate to reach SMEs.

The paper is organised as follows: Section 2 presents the existing theoretical and empirical evidence in relation to the role of bank market structure (including concentration and foreign bank presence) in shaping bank-firm relationship. Section 3 presents the empirical models tested in this paper, the estimation methods applied to each model, the relevant variables and datasets. Section 4 reports the empirical results. Section 5 presents robust analysis using alternative model specifications. Section 6 concludes.

2. Bank market power and foreign bank entry: background theory and evidence on lending to SMEs

2.1. Bank concentration and lending to SMEs

Previous studies show that the level of bank market power plays a complex role in determining credit availability. On the one hand, higher market power could lead to less

lending at higher costs to borrowers, which in turn has negative effects on economic growth and development with respect to the pricing and availability of banking services (Structure-Conduct-Performance hypothesis). For instance, using cross-country analysis and firm-level data, Beck et al. (2003) assess the effects of banking market structure on financing obstacles and the access of firms to bank finance and find that bank concentration increases financing obstacles and decreases the likelihood of receiving bank finance, with the impact decreasing with the increase in firm size. On the other hand, as Rajan (1992) has pointed out, the higher the market power, the more likely are banks to invest in information gathering about firms. The reasons for this are that they are more likely to be of sufficient size to gather and process relatively costly-to-obtain information about opaque firms, and because they are more likely to be able to enjoy monopoly rents from doing so. As a consequence, high concentration could lead to greater access to credit for firms, and hence improved economic growth and development. Somewhere in between the above two arguments, Caminal and Matutes (1997) argue that banks react to moral hazard problems by adjusting along multiple dimensions, particularly a certain combination of tighter credit and increased monitoring to maintain long-term relationships with firms. The effect of banks' market power on credit availability therefore depends on the net balance of two countervailing effects.

Other studies put the emphasis on the long-term relationship building to analyse the effects of market power on credit availability. These studies suggest that market power could allow creditors to put more effort in to building a long-term relationship, and so increase credit to borrowers. Petersen and Rajan (1995) suggest that young firms are more likely to receive institutional finance in a concentrated credit market than a competitive one and that the underlying differences in firm quality across markets do not appear to explain the differential access to capital. Market power allows creditors to smooth interest rates temporarily to aid the young and promising firms to build long-term relationship. By contrast, Boot and Thakor (2000) argue that competition will reduce the bank's profits in transactional lending more than its relationship-lending profits, encouraging the bank to shift towards relationship lending. Among empirical studies, Cetorelli and Gambera (2001) find that industries where young firms are more dependent on external (e.g., bank) finance grow faster in countries that

have a more concentrated banking sector, which supports the hypothesis of Petersen and Rajan (1995). di Patti and Dell'Ariccia (2004) investigate the effects of bank market power on the creation of Italian firms. They find that the relationship between firm creation and bank market power varies across industries characterized by different degree of opaqueness: bank market power is relatively more beneficial to firm creation in more opaque industries, which again is consistent with the hypothesis of Petersen and Rajan (1995). Using a dataset containing detailed information on firm-bank relationships, Degryse and Ongena (2007) find that fiercer interbank competition results in more relationship banking, consistent with Boot and Thakor (2000)'s hypothesis. Carbo-Valverde and Udell (2009) raise doubts about the validity of relying exclusively, or even primarily, on concentration indicators as measures of bank competitive conditions in studies of bank-firm relationships. Taking the Lerner index as the more reliable reference, the results show that bank market power increases firm financing constraints, supporting Boot and Thakor (2000)'s hypothesis.

There are also studies suggesting that the impacts of bank market power on relationship lending are not uniform. For example, Elsas (2005) analyses the determinants of the likelihood that a bank is a relationship lender for corporate borrowers in a probit regression model. The author finds that for low and intermediate concentration values, the likelihood of a bank being a relationship lender decreases as the concentration in local debt markets increases. This contradicts the conjecture that relationship lending requires monopolistic market structures. However, for very concentrated markets, the likelihood of relationship lending increases as concentration increases, consistent with the view that monopoly power can foster the establishment of lending relationships.

2.2. Foreign banks' role in lending to SMEs

Evidence from the U.S. banking market suggests that large banks allocate smaller proportion of their assets to a small business loans than do small banks (Berger et al., 1995; Keeton, 1995; Strahan and Weston, 1996). It is argued that small banks have a comparative advantage in collecting and acting on soft information over large banks which tend to

base loan approvals on standardised methods for assessing creditworthiness based on readily available information (e.g., Berger and Udell, 1996; Cole et al., 2004; Berger et al., 2005a). It is similarly argued that foreign banks are not the key players in this market segment as they do not have the information advantages necessary to build relationships with SMEs and that access to credit by small businesses would be reduced if foreign banks were to neglect small businesses and/or drive domestic banks from the market with which small businesses have exclusive dealings. Therefore, foreign bank entry may destroy the information generated through bank-borrower relationships (See Focarelli and Pozzolo, 2000; Clarke et al., 2003). The other argument emphasises that the penetration of foreign banks might harm SMEs because these foreign institutions might tend to "cherry pick" the most profitable customers, reducing financing to some sectors, especially the small businesses (See Clarke et al., 2000; Berger et al., 2001a,b).

However, another line of the research indicates that foreign bank entry does not necessarily harm small businesses. The argument is that foreign bank entry enhances the efficiency of the domestic banking system by introducing modern and more efficient banking techniques and products, technology, and training procedures. These may help to reduce costs and are beneficial to all borrowers (Levine, 1999; Barajas et al., 2000). Empirical evidence (Clarke et al., 2001, 2005) in developing countries suggests that, although entry by foreign banks benefits large enterprises more than small ones, small enterprises benefit too and large foreign banks are more inclined to lending to small businesses than large domestic banks. Survey evidence by Clarke et al. (2006) in developing countries shows that managers of enterprises in countries having higher levels of foreign bank presence perceive interest rates and access to long-term loans to be less constraining on enterprise operations and growth than do their counterparts in countries having less foreign participation. More survey evidence (Haas and Van Lelyveld, 2006; de la Torre et al., 2010) shows that foreign banks have the incentives and techniques to lend to SMEs. For instance, the survey data show that foreign banks have gradually increased their small business and retail lending. Subsidiaries started to use leasing in order to circumvent the deficient legal systems and parent banks later on also introduced new lending techniques in their subsidiaries. Meanwhile, SMEs themselves also

became more transparent to attract transactional lending. In addition, the rapid increase in competition in the blue-chip corporate segment stimulated foreign banks to seize the opportunities in SME lending. Selling non-lending products and services to SMEs deepens the engagement of banks with SMEs, is part of the efforts of banks to become the principal bank the SME engages with, and may thus facilitate increasing the amount of lending to the same SME. To the extent that these products and services gain importance, the institutional environment relevant to credit contract writing and enforcing becomes less of a constraint. Also, dealing with large corporations allows banks to reach out and offer loans to good SMEs that have long-term relations with those corporations (thereby reducing principal-agent problems and improving risk management). In addition, large banks are better able than small banks to use sophisticated business models (e.g., business centers, branches, SME account managers, and marketing campaigns) and risk management systems, so as to combine and integrate centralised and decentralised processes as appropriate to reach SMEs.

2.3. Where does the literature stand?

Overall, evidence on the effects of foreign ownership/size and market concentration on lending to SMEs is not conclusive when analysed respectively in the above studies. Very few studies look at the issue of how the above effects interact with each other. Partial exceptions are Canales and Nanda (2011); Mian (2008); Presbitero and Zazzaro (2011). Built on the work by Berger et al. (2005b), Canales and Nanda (2011) show the effect on credit constraints when competition and banks' organisational structures are considered interactively. They suggest that decentralisation of large banks allows bank managers to act on soft information. This can be beneficial for small businesses in competitive banking markets where decentralised banks can help alleviate credit constraints. Otherwise, decentralised banks might better-exploit their market power in concentrated banking markets by restricting credit or charging higher interest rates to small businesses. Likewise, Mian (2008) shows that decentralised banks consistently engage in more lending activity to small firms in markets with weak contract enforceability. Presbitero and Zazzaro (2011) show that decreases

in concentration (considered by the authors as increases in inter-bank competition) are associated with decreases in relationship lending in markets where large and out-of-market banks are predominant, but are associated with increases in relationship lending in markets where relationship lending technologies are widely in use by small mutual banks. Despite these exceptions, more evidence is required to understand and appreciate the competitive dynamics arising from the existence of banks of different sizes and ownerships associated with different market concentration levels. The contribution of this paper to the literature is, that by showing the effect of foreign bank presence intertwine with the effect of other aspects of banking market structure including bank size, bank concentration and dominance of large banks, I present a fresh angle of assessing the role of foreign banks, i.e. the role in bringing industry dynamics to the market.

3. Data and Methodology

3.1. Empirical Models

I start with the following model specification to test the respective effect of bank market structure (i.e. bank size, the concentration of the largest banks and the distribution of bank size) and foreign bank presence on lending to firms especially SMEs:

$$\begin{aligned} FirmLoan = {} & \beta_0 + \beta_1 * FirmSizeDummy + \beta_2 * BankSize(Concentration) \\ & + \beta_3 * ForeignBankPresence \\ & + \beta_4 * BankSize(Concentration) * FirmSizeDummy \\ & + \beta_5 * ForeignBankPresence * FirmSizeDummy \\ & + \beta_6 * control \end{aligned} \tag{1}$$

The dependent variable is individual firm's loan (current loans plus long term liability) in real terms. $FirmSizeDummy$ is 1 for SMEs and 0 otherwise. Following the EU Commission

Recommendation 2003 [1], SMEs are defined as firms whose employees are no more than 250 and whose total assets are no greater than 43 million Euros; or whose employees are no more than 250 and whose turnover is no more than 50 million Euros.

Regarding $BankSize(Concentration)$, it is indicated by three variables, bank size, its distribution and concentration. Bank size is measured by the average size of banks which account for more than 50% of the share in terms of deposit. This is to ensure that the average size is not biased downwards in markets where there are a lot of small banks. For bank concentration, I constructed the Herfindahl-Hirschman Index (HHI) for each market which is defined as the sum of the squares of the market shares (deposit) of each individual bank. The HHI reflects number and size distribution of firms as well as concentration. But the HHI is still dominantly a measure of concentration and it may not adequately capture inequality of shares/size (Rhoades, 1995). For instance, a highly concentrated market may indicate perfect equality in size or market share, or vice versa. Different from the HHI, the Gini coefficient represents the departure of the actual cumulative market share distribution from the distribution which would be observed if all firms are of equal size (White, 1982). It takes on values between 0 (perfect equality) and 1 (perfect inequality). Intuitively, dominant firms are more likely to exist when inequity is large. Therefore in addition to concentration, the Gini coefficient is used as a complementary measure to the HHI to reflect any impact arising from the dominance of large banks.

$ForeignBankPresence$ is measured by foreign banks' share of total assets in the banking market. Following the standard definition in literature, a bank is defined as foreign owned if 51% or more of its shares is foreign owned. To avoid potential endogeneity, I use the one-year lagged value of foreign bank presence.

The control variables include a banking regulation variable[2], firm-specific variables (operating revenue and return on assets), and the country-specific variables including real interest rate and GDP growth. To take into account market size effect, the size of domestic credit provided by banks is also controlled for. Considering that bank loans might have feedback

[1] This recommendation replaced the old EU Commission Recommendation 1996 since January 2005.

[2] see Section 3.2 for details

on firms' performance, the lagged firm-specific variables are used.

The interactive term in the above model allows me to test how the effect of foreign bank presence or bank size (concentration) on firms' loan depends on the size of firms. However, as pointed out by Brambor et al. (2006), the standard results report only the marginal effect when the conditional variable (in our case, the $FirmSizeDummy$) is 0. Similarly, only the standard error for this particular effect is typically reported. As a result, the only inference that can be drawn in this situation is whether foreign bank presence or bank size (concentration) has a significant effect on firm loans for the unique case in which $FirmSizeDummy = 0$. To also infer the marginal effect when $FirmSizeDummy = 1$ and its significance, the marginal effect of foreign bank presence or bank market size structure on firm loan is calculated conditional on firm size as follows:

$$conditional\beta_2 = \beta_2 + \beta_4 * FirmSizeDummy \tag{2}$$

$$conditional\beta_3 = \beta_3 + \beta_5 * FirmSizeDummy \tag{3}$$

The variances of the marginal effects are calculated as follows:

$$\begin{aligned} \hat{var}^2_{conditional\beta_2} = var(\hat{\beta}_2) + FirmSizeDummy^2 * var(\hat{\beta}_4) \\ + 2 * FirmSizeDummy * cov(\hat{\beta}_2\hat{\beta}_4) \end{aligned} \tag{4}$$

$$\begin{aligned} \hat{var}^2_{conditional\beta_3} = var(\hat{\beta}_3) + FirmSizeDummy^2 * var(\hat{\beta}_5) \\ + 2 * FirmSizeDummy * cov(\hat{\beta}_3\hat{\beta}_5) \end{aligned} \tag{5}$$

If foreign bank presence or bank size (concentration) has a positive marginal effect on loans to small business, $conditional\beta_2$ or $conditional\beta_3$ should be positive and statistically significant when $FirmSizeDummy = 1$ (i.e. when firms are small).

The above model specification is used to reveal the respective effect of the presence of large banks and foreign banks. I then use the following model specification to examine the effects of presence of large foreign banks on loans to SMEs:

$$\begin{aligned} SMELoan = {} & \delta_0 + \delta_1 * BankSize(Concentration) \\ & + \delta_2 * ForeignBankPresence \\ & + \delta_3 * ForeignBankPresence * BankSize(Concentration) \\ & + \delta_4 * Control \end{aligned} \tag{6}$$

The interactive term $ForeignBankPresence * BankSize(Concentration)$ (denoted as FS) is used to allow the respective effect of bank size or concentration and foreign bank presence tested in Model 1 to depend on each other. Consider the effect of bank size on lending to SMEs. If a positive effect of bank size on lending to SMEs is obtained by estimation in the first model, i.e. increasing bank size leading to increasing lending to SMEs, the interactive term FS will allow the positive effect arising from increasing bank size to depend on foreign bank presence. If this conditional effect is positive and significant we can conclude that the positive effect on lending to SMEs from increasing bank size is enhanced when there are more foreign banks than domestic banks. The test therefore indicates the effect of presence of large foreign banks on lending to SMEs as opposed to that of presence of large domestic banks. Similarly, consider the effect of foreign bank presence on lending to SMEs. If a positive effect of foreign bank presence on lending to SMEs is obtained by estimation in the first model, the interactive term FS will allow this positive effect arising from increasing foreign bank presence to depend on bank size. If this conditional effect is positive and significant we can then conclude that the positive effect on lending to SMEs of increasing foreign bank presence is enhanced when the average bank size is larger. This therefore indicates that it would be more beneficial to SMEs to have more large foreign banks rather

than small foreign banks.

From the estimated coefficients and variance-covariance of Model 2 (Equation 6), I calculate the conditional marginal effects and their variances as follows:

$$conditional\delta_1 = \delta_1 + \delta_3 * ForeignBankPresence \tag{7}$$

$$conditional\delta_2 = \delta_2 + \delta_3 * BankSize(Concentration) \tag{8}$$

$$\begin{aligned} \hat{var}^2_{conditional\delta_1} = var(\hat{\delta_1}) + ForeignBankPresence^2 * var(\hat{\delta_3}) \\ + 2 * ForeighBankPresence * cov(\hat{\delta_1}\hat{\delta_3}) \end{aligned} \tag{9}$$

$$\begin{aligned} \hat{var}^2_{conditional\delta_2} = var(\hat{\delta_2}) + BankSize(concentration)^2 * var(\hat{\delta_3}) \\ + 2 * BankSize(Concentration) * cov(\hat{\delta_2}\hat{\delta_3}) \end{aligned} \tag{10}$$

Since the conditional variables in the above equations are continuous variables instead of dummy variables, I calculate the marginal effects conditional on a set of values of the conditional variables. This is to show how the marginal effects change with the change in the values of conditional variables. Variances are calculated correspondingly to show the confidence intervals.

3.2. Data and Estimation Method

The bank deposit data used to calculate bank concentration, HHI and Gini Coefficient are obtained from BankScope database. In addition, three banking regulation indices are included to control for the regulatory environment of the banking markets: Overall Activities Restrictions, Capital Regulatory Index, and Entry into Banking Requirements from

the database originally constructed by Barth et al. (2001)[3] and updated afterwards. other country-level control variables are from World Bank's World Development Indicators. See the summary statistics in Table 1.

All the firm data are obtained from firms' balance sheets. The firm-level balance sheet data come from the Amadeus Database. The database includes firm-level accounting data in standardised financial format in 38 European countries since 1998. I start with the sample of 68761 firms [4] across Central and Eastern European countries from 1998 to 2006.

Although the database includes the basic financial information for most companies, the coverage of some specific terms varies across countries and over time. For example, a lot of firm data in the Russian Federation are missing in 1998 and 1999. Many firms in Slovenia only report total liabilities and do not include a breakdown of their debt structures. Also data on operating revenue are missing in Serbia. This has substantially reduced the sample size. The final sample of this paper includes 12 Eastern European countries: Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia (FYROM), Poland, Russian Federation, Slovakia and Ukraine over 1998-2006 with the unbalanced panel data of 48732 firms. All variables are in real terms and in the form of natural logarithm since the variables in the model are in different units of measurement. Taking into account that the dependent variable, $FirmLoan$ is measured as a stock variable and is likely to be serially correlated, I use the GMM dynamic panel data approach to allow for the lags of the dependent variable to be included in the above models. The 2nd order serial autocorrelation tests of the residual terms developed by Arellano and Bond (1991) are conducted to ensure

[3]Three bank activity restrictiveness variables (including banks engaging in securities activities, insurance activities, real estate activities) and two mixing of banking and commerce variables (including banks owning non-financial firms and non-financial firms owning banks) are significantly and positively related with one another according to Barth et al. (2001)'s tests. So these variables are combined into one variable, which is the Overall Activities Restrictions variable. Capital Regulatory Index is the sum of the two measures of capital stringency, i.e. Overall Capital Stringency and Initial Capital Stringency. Overall capital stringency indicates whether there are explicit regulatory requirements regarding the amount of capital that a bank must have relative to various guidelines. Initial capital stringency indicates whether the source of funds counted as regulatory capital can include assets other than cash or government securities and borrowed funds as well as whether the sources are verified by the regulatory or supervisory authorities. Entry into Banking Requirements indicates whether there are specific legal submissions required to obtain a license to operate as a bank.

[4]The database enables access to date for the top 250,000 firms across Europe.

the consistency of the estimation results. The summary statistics of the main variables and their sources are reported in the Appendix.

Table 1 shows the correlations between different market structure indicators. It shows insignificant correlation between the Gini coefficient and HHI. This further suggests the importance of using both the Gini coefficient and HHI. As mentioned before, a market even not concentrated may still exhibit market inequality of size; or a market even highly concentrated could exhibit perfect equality of size. In addition, the correlations between foreign bank presence, and bank size and HHI suggest that some robustness checking is necessary to control for the feedbacks from foreign bank presence to size or HHI and vice versa, when the interactive effects are examined. I discuss this in detail in Section 5.

Table 1: Correlations between different market structure indicators

	Foreign Bank Presence	HHI	Gini Coefficient
HHI	0.47 (0.0000)[1]		
Gini Coefficient	-0.02 (0.8313)	0.05(0.6071)	
Average Bank Size	0.34 (0.0001)	0.04 (0.6497)	0.25 (0.0026)
No. of obs.	133	133	133

[1] p values are indicated in the brackets.

4. Empirical Results

4.1. Model 1 (Equation 1): the respective effect of bank size or concentration and foreign bank presence on lending to firms, conditional on firm size

The purpose of this test is to examine how bank size, concentration or foreign bank presence contributes to credit availability to firms especially SMEs. Table 2 shows the standard results from the estimation of Model 1 (i.e. when $FirmSizeDummy = 0$). Based on these results, effects conditional on firm size are calculated together with statistical significance in Table 3 (i.e. when $FirmSizeDummy = 1$).

In the case of bank size, the marginal effect on loans to firms is positive for all firms. As indicated by $conditional\beta_2$ in Table 3, the marginal effect is positive and statistically significant in the case when $FirmSizeDummy = 1$, and the positive effect is stronger compared

to the case when $FirmSizeDummy = 0$. In the case of bank HHI, the marginal effect does not depend much on the firm size dummy. There is a negative impact of the HHI on firm loans and it is statistically significant. In the case of bank Gini Coefficient, the result is similar to that of the case of HHI. The marginal effect does not depend much on the size dummy either. There is a negative impact of the Gini Coefficient on firm loans and it is statistically significant. Comparing the magnitude of the coefficients, the effect of the Gini coefficient is more significant than HHI.

These results suggest that, on the one hand, the presence of larger banks benefits all firms and more so for SMEs; on the other hand, the higher presence of very large banks indicated by a higher Gini and higher bank concentration is harmful to all firms including SMEs. These results have important implications. Larger banks are more likely to have an extensive branch network (especially so since I use deposit market share to measure market concentration and size distribution), this possibly gives competitive advantages to larger banks to reach SMEs. In other words, in the SME lending market segment, banks size and scale does matter as shown by the significant coefficient of bank size. However, when the market shows high degree of inequality in bank size, i.e. with only a few large dominant banks, the large banks are likely to abuse such a market position and harm SMEs. This evidence contrasts with the literature suggesting bank size is negatively associated with lending to SMEs. Instead, it is more consistent with the view that larger banks may be decentralised to process soft information (e.g., Mian, 2008).

Regarding foreign bank presence, the results show that foreign bank presence contributes positively to firm loans, regardless of which indicator is used to control for bank market concentration and bank size. However the marginal effect of foreign bank presence when $FirmSizeDummy = 1$ (indicated by $conditional\beta_3$ in Table 3) is lower compared to the case when $FirmSizeDummy = 0$. But in both cases the marginal effects are positive and statistically significant. In other words, foreign bank entry contributes positively to loans to all firms but the positive effect is less significant in the case of SMEs than that of large firms.

Overall the above results suggest that the presence of large banks and foreign banks is more

beneficial to SMEs compared to the presence of small banks and domestic banks. However, when bank size distribution becomes more skewed, dominance of very large banks can hurt all firms including SMEs. In addition, higher concentration will reduce lending to firms, including SMEs.

Regarding the control variables, firms with lower operating revenue and higher return on assets seem to receive more loans. This might happen because, on the one hand, firms with better performance are more likely to receive loans; on the other hand firms with better performance might be more able to repay debts. The inclusion of country-specific variable shows that real interest rate is positively related to loans received by firms. This might indicate that a bank loan is a normal good. Also firms in a country with high GDP growth are more likely to receive credit, indicating that banks are more willing to lend in times of economic boom. Regarding the effect of bank regulations, the results show that there is a negative relationship between a highly regulated banking sector and firms' external financing. This seems to suggest that banking activity restrictions reduce lending to firms. Interestingly, the effect of bank market size indicated by domestic credit provided by banking sector is significantly negative. This suggests that firms in our sample countries are more likely to face external financing constraints in markets where banking credit is a more important source of credit.

Table 2: Model 1 - Effect of bank size, concentration, and foreign bank presence on lending to firms

Dependent variable: firm loans	Bank Size	HHI	Gini
Bank Size or Concentration (β_2)	0.016**	-0.096***	-0.106***
	(0.0078)	(0.0160)	(0.0311)
Foreign Bank Presence (β_3)	0.150***	0.178***	0.241***
	(0.0403)	(0.0350)	(0.0343)
SME Dummy (β_1)[1]	-0.262***[2]	-0.074**	-0.083***
	(0.0850)	(0.0356)	(0.0243)
SME*Bank Size or Concentration (β_4)	0.021**	-0.001	-0.021
	(0.0096)	(0.0142)	(0.0373)
SME*Foreign Bank Presence (β_5)	-0.048***	-0.033**	-0.035***
	(0.0151)	(0.0171)	(0.0139)
Bank Regulation	-0.020	-0.014	-0.017
	(0.0176)	(0.0160)	(0.0159)
Operating Revenue	-0.097***	-0.093***	-0.092***
	(0.0096)	(0.0058)	(0.0058)
Return on Assets	0.227***	0.221***	0.219***
	(0.0254)	(0.0219)	(0.0218)
Real Interest Rate	0.221***	0.315***	0.271***
	(0.0456)	(0.0393)	(0.0383)
GDP Growth	0.214***	0.242***	0.328***
	(0.0655)	(0.0574)	(0.0568)
Domestic Credit by Banks	-0.198***	0.185***	-0.192***
	(0.0250)	(0.0250)	(0.0248)
No. of Obs.	141985	141985	141985
No. of firms	41521	41521	41521
$AR(1)$[3]	-39.76	-37.5	-36.97
p value	(0.0000)	(0.0000)	(0.0000)
$AR(2)$	0.506	0.536	0.563
p value	(0.612)	(0.592)	(0.574)

[1] SME is the dummy for small-medium sized enterprises. It is equal to 1 if a firm is small-medium sized.

[2] *** indicates the statistic significance is at the 1% level, ** indicates the statistic significance is at the 5% level and * indicates the statistic significance is at the 10% level, standard errors are in the brackets.

[3] $AR(1)$ and $AR(2)$ report the z statistics of the Arrellano-Bond test for autocorrelation in residuals of order 1 and 2 respectively. This is to ensure 0 autocorrelation in the first differenced residuals.

Table 3: Model 1 - Calculated marginal effect of bank size, concentration and foreign bank presence on lending to SMEs (when $SMEDummy = 1$)

	conditional marginal effect of bank market size structure	conditional marginal effect of foreign bank presence
Bank size used	0.037*** (0.0078)	0.102* (0.0386)
HHI used	-0.095*** (0.0179)	0.145*** (0.0348)
Gini used	-0.127*** (0.0301)	0.207*** (0.0345)

4.2. Model 2 (Equation 6): the effect of bank size or concentration (foreign bank presence) on lending to SMEs, conditional on foreign bank presence (bank size or concentration)

Having shown the respective effect of foreign bank presence, and bank size or concentration on credit availability to SMEs, I then test how the two forces affect credit availability to SMEs differently if I allow the respective effect to depend on each other. The standard results of the model estimation are shown in Table 4. In Table 5, I focus on the coefficient on the interactive term. I use figures 1-4 to show the interpretation of the conditional marginal effect and its statistical significance as explained in the section of Empirical Models. As the effect related to HHI is similar to that of the Gini coefficient but less significant statistically, I only report in the figures the marginal effects using bank size and the Gini coefficient.

Firstly using foreign bank presence as the conditional variable, the calculated marginal effect of bank size conditional on a set of values of foreign bank presence (shown in Figure 1) shows that the positive marginal effect of bank size is strengthened by higher foreign bank presence. Figure 2 shows that the negative effect of the Gini coefficient on credit to SMEs is offset by higher foreign bank presence. In other words, with increasing foreign bank presence, the increase in lending to SMEs due to larger bank size is intensified, but the decrease in lending to SMEs due to increasing Gini coefficient is reduced. To interpret the economic significance, while foreign bank presence (taking the natural log) increases from 25th percentile (-1.54) to 75th percentile (-0.09), the marginal effect of bank size (natural log) will increase from -0.01[5] to +0.04. So 1 unit of increase in size (natural log) will lead to 0.04 unit of increase in lending to SMEs (natural log), instead of 0.01 unit of decrease in lending to SMEs (natural log). In other words, 10% of increase in bank size (level) will lead to 0.4% increase in lending to SMEs (level), instead of 0.1% decrease. Similarly, with an increase in foreign bank presence (natural log) from -1.54 to -0.09, the negative effect of the Gini coefficient on lending to SMEs will decrease from 2.9% to 1.5% (given 10% increase in the Gini coefficient). We therefore can conclude from these results that the presence of larger banks with more foreign bank ownership is more beneficial for SMEs compared to

[5]If foreign bank presence is very low, the results suggest that the marginal effect of size can become negative.

presence of larger banks with more domestic ownership. More importantly, the presence of foreign banks offsets the negative impact of the Gini coefficient. The same applies to HHI. But the offsetting impact is more obvious in the case of the Gini coefficient than HHI. This also implies that the presence of foreign banks is more likely to be offsetting the negative impact related to dominance (which results in inequality) than concentration.

Secondly, when bank size indicators are used for conditional variables, the calculated marginal effect of foreign bank entry conditional on a set of values of bank size is reported in Figure 3 and 4. Figure 3 and 4 show that the positive marginal effect of foreign bank presence is strengthened by increasing bank size and the Gini Coefficient. To interpret the economic significance, if bank size (taking natural log) increases from the 25th percentile (7.51) to 75th percentile (8.92), the marginal effect of foreign bank presence on lending to SMEs increases from 0.180 to 0.225. So 10% increase in foreign bank presence will now lead to 2.3% increase in lending to SMEs, instead of 1.8%. Similarly, with an increase in bank Gini Coefficient from the 25th percentile (-0.496) to 75th percentile (-0.302), the marginal effect of foreign bank presence on lending increases from 3.2% to 3.3% (given 10% increase in foreign bank presence). This effect is economically small. In other words, the positive impact of foreign bank presence depends very little on the Gini coefficient. The marginal impact of foreign bank presence conditional on HHI is not statistically significant. In other words, the positive impact of foreign bank presence does not depend on HHI. Therefore we can conclude from these results that the presence of larger foreign banks is more beneficial for SMEs compared to the presence of smaller foreign banks. But the interactive effect with foreign bank presence from the Gini coefficient or HHI is not economically or statistically significant.

Overall the above results show that the presence of larger banks with more foreign banks are more beneficial to SMEs compared to the presence of larger domestic banks or the presence of smaller foreign banks. In particular, the presence of foreign banks offsets the negative impact arising from high concentration and Gini coefficient. This strongly indicates the positive role of large foreign banks in lending to SMEs.

Table 4: Model 2 - Marginal effect of foreign bank presence (bank size or concentration) on SME loans conditional on bank size concentration (foreign bank presence)

Firm Loan	Bank size	HHI	Gini
Bank Size or Concentration (δ_1)	0.042***	-0.114***	-0.138***
	(0.0109)	(0.0349)	(0.0372)
Foreign Bank Presence (δ_2)	-0.060	0.283***	0.365***
	(0.1040)	(0.0989)	(0.0617)
Bank size or concentration* Foreign Bank Presence(δ_3)	0.032***	0.026	0.101*
	(0.0106)	(0.0281)	(0.0567)
Bank Regulation	-0.021	-0.014	-0.016
	(0.0175)	(0.0188)	(0.0174)
Operating Revenue	-0.061***	-0.056***	-0.056***
	(0.0079)	(0.0077)	(0.0078)
Return on Assets	0.194***	0.182***	0.182***
	(0.0284)	(0.0282)	(0.0280)
Real Interest Rate	0.273***	0.367***	0.296***
	(0.0517)	(0.0491)	(0.0497)
GDP Growth	0.361***	0.366***	0.506***
	(0.0801)	(0.0805)	(0.0725)
Domestic Credit by Banks	-0.103***	-0.087***	-0.088***
	(0.0316)	(0.0312)	(0.0308)
No. of Obs.	61790	61790	61790
No. of firms	21445	21445	21445
$AR(1)$	-21.34	-20.07	-20.46
p value	(0.0000)	(0.0000)	(0.0000)
$AR(2)$	-0.344	-0.424	-0.362
p value	(0.7304)	(0.6714)	(0.7171)

Figure 1: Calculated marginal effect of bank size conditional on foreign bank presence

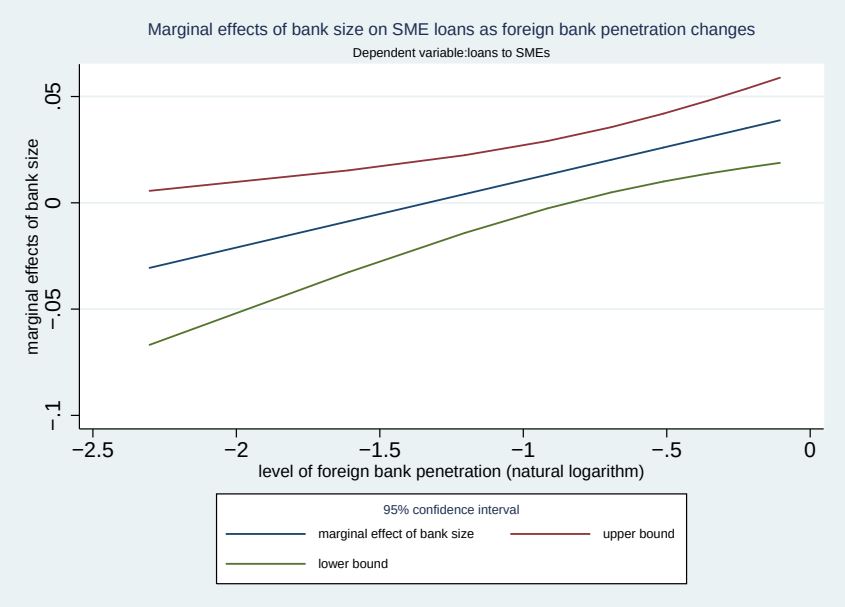


Figure 2: Calculated marginal effect of bank Gini Coefficient conditional on foreign bank presence

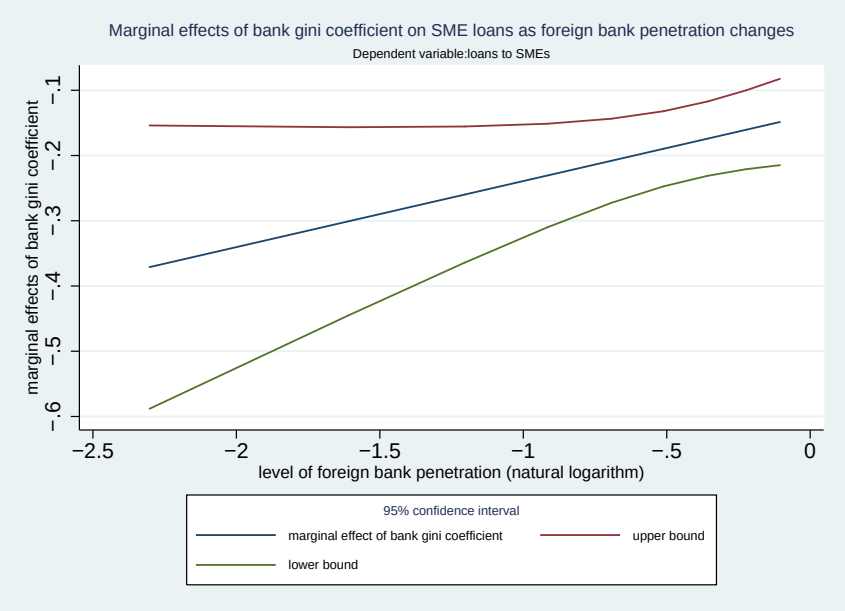


Figure 3: Calculated marginal effect of foreign bank presence conditional on bank size

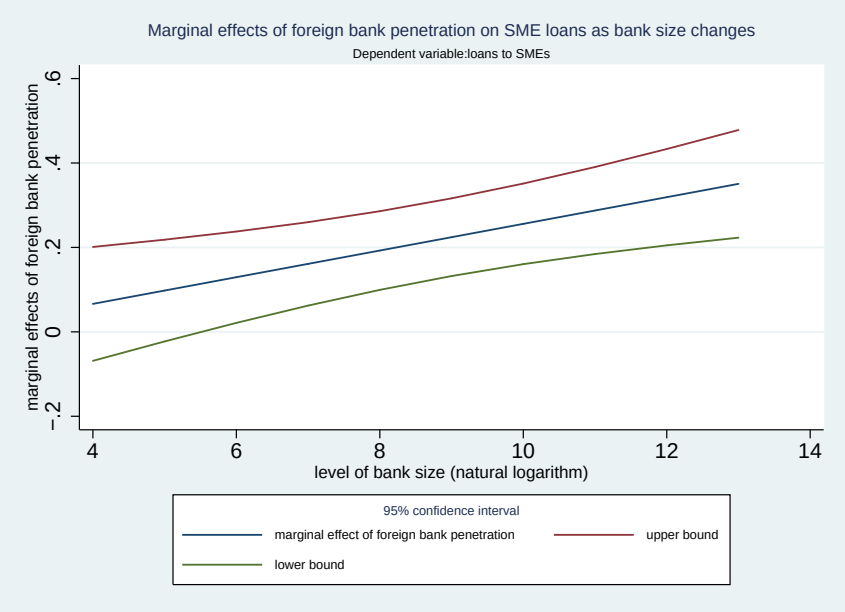
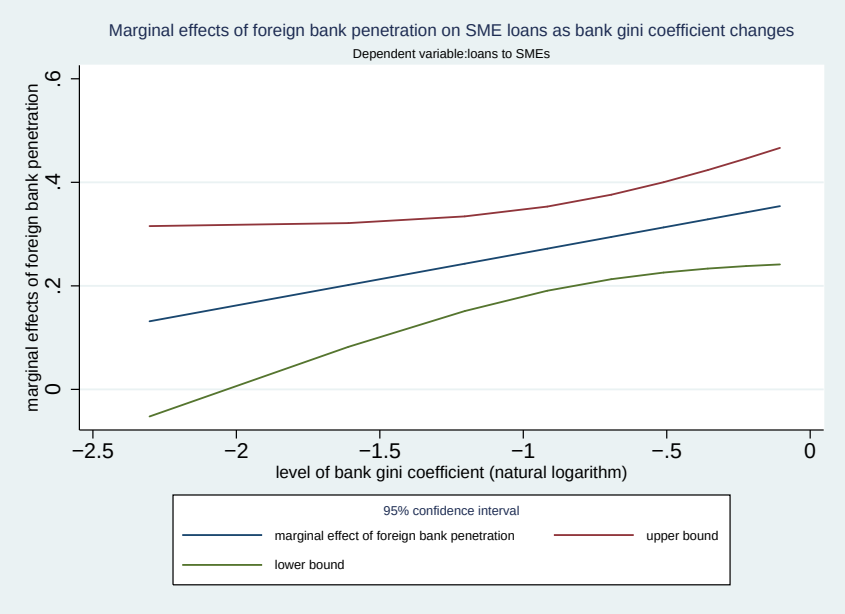


Figure 4: Calculated marginal effect of foreign bank presence conditional on bank Gini Coefficient



5. Robustness Analysis

By calculating the marginal effects and their variances, the main advantage is that we are able to see clearly how the marginal effect of e.g. bank concentration on lending to SMEs varies with the continuous changes in the level foreign bank presence. The alternative specification below (also see Ozer-Balli and Sorensen, 2010) using demeaned (actual value-the mean value) variables provides a simpler presentation of the conditional marginal effect in the above specified model 2 (Equation 6):

$$
\begin{aligned}
SMELoan = {} & \sigma_0 + \sigma_1 * BankSize(Concentration) \\
& + \sigma_2 * ForeignBankPresence \\
& + \sigma_3 * (ForeignBankPresence - \bar{ForeignBankPresence}) \\
& * (BankSize(Concentration) - \bar{BankSize(Concentration)}) \\
& + \sigma_4 * Control
\end{aligned}
$$

(11)

It can be seen from the above specification that the marginal effect of bank size or concentration dependent on foreign bank presence is estimated directly with foreign bank presence taking its mean value, indicated by σ_1. Similarly the marginal effect of foreign bank presence dependent on bank size or concentration is also estimated directly with measured bank size or concentration taking its mean value, indicated by σ_2. By construction, σ_3 is exactly the same as δ_3 in model 2. The results using the demeaned specification is shown in Table 5.

Table 5: Marginal effect of bank size or concentration (foreign bank presence) on lending to firms conditional on demeaned foreign bank presence (demeaned bank size or concentration)

	marginal effect of bank size/concentration when foreign bank presence taking mean value (σ_1)	marginal effect of foreign bank presence when bank size/concentration taking mean value (σ_2)
Bank size used	0.013 (0.0081)	0.194*** (0.0474)
HHI used	-0.139*** (0.0197)	0.217*** (0.0465)
Gini used	-0.233*** (0.0414)	0.324*** (0.0473)

The estimated effects are consistent with the marginal effects shown in figures 1-4. In Figure 1 and 2, the marginal effect ranges from approximately -0.04 to 0.04 for bank size and -0.4 to -0.15 for the Gini coefficient, when foreign bank presence takes the value from 0 to 1 (roughly -2.5 to 0 in natural logs). In the above table, the effect is 0.013 for bank size and -0.233 for the Gini Coefficient, when foreign bank presence takes the mean value. In Figure 3 and 4, the marginal effect of foreign bank presence ranges from approximately 0.05 to 0.38 (when size varies from 4 to 14 in natural logs) and 0.18 to 0.38 (when the Gini Coefficient varies from 0 to 1). In the above table, the effect of foreign bank presence is around 0.19 and 0.32 when bank size or the Gini coefficient takes its mean value respectively. Therefore the marginal effect estimated using the demeaned conditional variables are within the range of estimations using Model 2 (Equation 6) specification.

One concern about Model 2 (Equation 6) is that foreign bank presence may affect bank

size or concentration indicators or vice versa. If the estimated conditional marginal effects largely pick up this interaction, the underlying implications of the results may be undermined. I therefore use the Frisch-Waugh theorem (see Ragnar and Waugh, 1933; Ozer-Balli and Sorensen, 2010) to orthogonalise bank size or concentration variables and foreign bank presence variable respectively so that I can test whether the impact of bank size or concentration on lending to SMEs is still conditional on foreign bank presence after cleaning the possible effect of foreign bank presence on bank size or concentration, and vice versa. I do so by interacting the Frisch-Waugh residual of bank size or concentration (from regressing bank size or concentration on foreign bank presence and a constant, to orthogonalise the bank size or concentration variables) with foreign bank presence. Similarly, I interact the Frisch-Waugh residual of foreign bank presence (from regressing foreign bank presence variable on bank size or concentration variable and a constant, to orthogonalise foreign bank presence) with bank size or concentration. For simplicity, I use the demeaned version as shown in Equation 11 to illustrate the specification in the following equations:

$$\begin{aligned} SMELoan = {} & \lambda_0 + \lambda_1 * BankSize(Concentration) \\ & + \lambda_2 * ForeignBankPresence \\ & + \lambda_3 * BankSize(Concentration)^{orthogonalised} \\ & * (ForeignBankPresence - \bar{ForeignBankPresence}) \\ & + \lambda_4 * Control \end{aligned} \tag{12}$$

$$\begin{aligned} SMELoan = {} & \gamma_0 + \gamma_1 * BankSize(Concentration) \\ & + \gamma_2 * ForeignBankPresence \\ & + \gamma_3 * ForeignBankPresence^{orthogonalised} \end{aligned}$$

$$* (BankSize(Concentration) - BankSize(\bar{Concentration}))$$
$$+\gamma_4 * Control \tag{13}$$

I then estimate the marginal effect of bank size or concentration on foreign bank presence with foreign bank presence taking its mean value, indicated by λ_3. The difference between λ_3 in the above Equation 12 and δ_3 in Model 2, Equation 6 (i.e. σ_3 in the alternative demeaned specification, Equation 11) is that the cleaned (orthogonalised) bank size or concentration indicator is used to interact with foreign bank presence. If the interactive term is significant, it is less likely that the interactive term in Model 2 is picking up the effect of foreign bank presence on bank size or concentration. Similar analysis applies to Equation 13. The results are shown in the following Table 6 and 7.

Table 6: Marginal effect of bank size or concentration on lending to SMEs conditional on foreign bank presence, with bank size or concentration orthogonalised

	marginal effect of bank size/concentration when foreign bank presence taking mean value (λ_1)	interactive term (λ_3)
Bank size used	0.013* (0.0079)	0.042*** (0.0122)
HHI used	-0.144*** (0.0190)	0.049** (0.0233)
Gini used	-0.228*** (0.0409)	0.095* (0.0554)

Table 7: Marginal effect of foreign bank presence on lending to SMEs conditional on bank size or concentration, with foreign bank presence variable orthogonalised

	marginal effect of foreign bank presence when bank size/concentration taking mean value (γ_2)	interactive term (γ_3)
Bank size used	0.202*** (0.0471)	0.019** (0.0101)
HHI used	0.182*** (0.0433)	-0.039 (0.0308)
Gini used	0.345*** (0.0467)	0.189*** (0.0626)

Comparing to the results in Table 5, after cleaning the effect of foreign bank presence

on bank size or concentration, the positive marginal effect in Table 6 of bank size did not change and the negative impact of HHI and the Gini coefficient hardly changed in magnitude (from -0.139 to -0.144 and from -0.233 to -0.228 respectively), conditional on foreign bank presence. In fact, the coefficient on the interactive term (λ_3), is statistically significant in all three cases. We can see from these results that, taking into account that the interactive term in Model 2 (Equation 6) might have picked up some feedback of foreign bank presence on concentration or bank size or the Gini coefficient, the strengthening (offsetting) of the effect of bank size (Gini, HHI) on SMEs with increasing foreign bank presence is still valid. Similarly, after cleaning the effect of bank size on foreign bank presence in Table 7, the positive marginal effect of foreign bank presence does not change much either (from 0.194 to 0.202 conditional on bank size; from 0.324 to 0.345 conditional on the Gini coefficient[6]). Meanwhile, the coefficient on the interactive term (γ_3), is statistically significant in both the cases of banks size and the Gini coefficient, as discussed earlier in Figure 3 and 4. Therefore we can see from these results that, taking into account that the interactive term in Model 2 (Equation 6) might have picked up some interactive effect of bank size on foreign bank presence (the interactive term in Table 7 when HHI is used is at 20% level), the strengthening of the effect of foreign bank presence on SMEs with increasing bank size/Gini coefficient is largely valid (although I have shown with Figure 4 that the strengthening of the effect of foreign bank presence from the Gini coefficient is economically insignificant).

6. Conclusion

To conclude, the empirical evidence in this study based on both firm-level and bank data in Eastern European countries strongly supports the positive roles of large foreign banks in lending to SMEs. Such positive roles are illustrated by the presence of foreign banks associated with different levels of market concentration, bank size and its distribution. Firstly, the effect of bank size (measured by the average size of banks with more than 50% of total deposit in the market), its distribution (measured by the Gini coefficient), bank market con-

[6]As mentioned earlier, the impact of foreign bank presence does not depend on HHI

centration (measured by the HHI) and foreign bank presence (share of foreign banks' total assets) on lending to SMEs is tested respectively controlling for each other. The results show that size matters for the SME banking market in the sense that larger banks are associated with increasing lending to SMEs. A market with higher foreign ownership also contributes positively to lending to SMEs. However, higher HHI and Gini Coefficient, indicating higher concentration and inequality in banks size (thus dominance of large players), contributes negatively to lending to all firms including SMEs. Then, by allowing the effect of bank size distribution and concentration to depend on foreign bank presence, I find that the negative effect of the HHI or Gini coefficient (especially Gini coefficient) on SMEs is offset by increasing foreign bank presence. When allowing the effects of bank size and foreign bank presence to depend on each other, the results show that the marginal effects of bank size and presence of foreign banks on lending to SMEs are mutually enhancing. This suggests that increasing presence of large foreign banks is more beneficial to SMEs than the presence of more small foreign banks or large domestic banks in these transition economies.

The above findings suggest that, when considering the SME banking market, it is important to study how the presence of different types of banks promotes competitive and positive dynamics and creates more opportunities for SMEs rather than considering bank concentration, size, or ownership on its own. The presence of certain banks (in this paper, the foreign banks) may mitigate the negative impact of the presence of other banks (in this paper, the dominance of large banks). Apart from competition between different types of banks or arising from new entries, the industry dynamics may also include knowledge spillover across different banks in financing SMEs. Moreover, the results may have further implications to other transition economies where foreign banks have limited or restricted roles in financing firms, such as China. For instance, Ding et al. (2010) show that small and young Chinese firms typically build up high working capital to alleviate the effects of financing constraints. Therefore, future direct evidence on how the co-existence of both large foreign and small local banks contribute to lending to SMEs is called for.

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Appendix A. Summary statistics

Table A.8: Mean of main variables (standard deviations in brackets)

country	Firm Loan th Euros	No. of SMEs[1]	Foreign Bank Presence[2]	Bank Size m Dollars	HHI Index	Gini Coefficient	GDP Growth[3]	Real Interest Rate	Operating Revenue[4] th Euros	Return on Assets	Domestic Credit by banks (% of GDP)
Bulgaria	6.44	1042.5	0.817	794.6	0.117	0.564	0.049	0.047	123.2	0.054	27.2
	(36.3)	(101.1)	(0.027)	(0.628.4)	(0.018)	(0.009)	(0.006)	(0.009)	(535.1)	(0.149)	(9.493)
Croatia	17.29	915.7	0.912	4809.6	0.164	0.709	0.044	0.075	222.6	0.045	63.1
	(67.2)	(97.8)	(0.008)	(2263.2)	(0.024)	(0.062)	(0.008)	(0.010)	(718.9)	(0.134)	(8.253)
Czech Rep.	13.85	3363.7	0.913	15500.0	0.195	0.672	0.035	0.039	265.9	0.053	47.0
	(75.5)	(837.8)	(0.008)	(5648.0)	(0.029)	(0.033)	(0.017)	(0.013)	(1119.8)	(0.128)	(4.251)
Estonia	8.16	536.9	0.995	6586.9	0.559	0.638	0.068	0.024	145.1	0.094	50.9
	(25.8)	(73.5)	(0.003)	(6354.1)	(0.029)	(0.068)	(0.226)	(0.024)	(243.5)	(0.165)	(13.765)
Hungary	18.19	410.1	0.633	7259.8	0.157	0.638	0.044	0.050	276.4	0.068	57.7
	(725.1)	(378.1)	(0.046)	(3561.6)	(0.024)	(0.028)	(0.007)	(0.022)	(1291.8)	(0.135)	(4.131)
Latvia	8.48	495.9	0.568	1472.1	0.191	0.598	0.076	0.034	137.3	0.073	42.8
	(27.94)	(100.0)	(0.115)	(1125.9)	(0.113)	(0.041)	(0.019)	(0.044)	(281.7)	(0.154)	(18.316)
Lithuania	12.88	473.6	0.917	2010.9	0.351	0.585	0.065	0.072	175.0	0.638	25.9
	(51.8)	(169.3)	(0.012)	(1180.9)	(0.110)	(0.075)	(0.031)	(0.032)	(674.9)	(0.116)	(9.418)
Macedonia	21.7	15.80	0.430	418.2	0.295	0.606	0.017	0.131	283.4	0.042	18.3
	45.8)	(4.10)	(0.043)	(83.6)	(0.046)	(0.047)	(0.032)	(0.024)	(440.7)	(0.098)	(2.696)
Poland	18.28	3729.5	0.726	4705.1	0.091	0.495	0.034	0.081	325.3	0.061	33.9
	(167.5)	(1118.5)	(0.186)	(5572.6)	(0.021)	(0.119)	(0.014)	(0.038)	(1383.3)	(0.156)	(1.127)
Russian Fed.	16.96	6149.9	0.184	2910.9	0.043	0.794	0.062	-0.043	189.1	0.086	26.4
	(1092.8)	(2294.7)	(0.050)	(1839.3)	(0.037)	0.084	(0.027)	(0.072)	(9085.3)	(0.181)	(4.967)
Slovakia	16.86	708.8	0.984	5016.5	0.210	0.547	0.047	0.051	321.1	0.057	49.6
	(158.8)	(318.9)	(0.015)	(1836.8)	(0.027)	(0.041)	(0.013)	(0.027)	(1405.3)	(0.128)	(5.653)
Ukraine	88.31	1398.3	0.303	1189.2	0.088	0.679	0.070	0.093	1039.2	0.034	29.5
	(8126.3)	(446.7)	(0.035)	(867.4)	(0.019)	(0.026)	(0.035)	(0.089)	(86844.3)	(0.148)	(4.120)

[1] No. of SMEs varies over time and across industries.
[2] Foreign Bank Presence, Bank Size, and HHI index are calculated using data from BankScope database.
[3] GDP growth, Real Interest Rate, Domestic Credit by Banks are from WDI database.
[4] Firm Loan, No. of SMEs, Operating Revenue and Return on Assets are from Amadeus database