

Financial Integration and Firm Performance: Evidence from Foreign Bank Entry in Emerging Markets*

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Abstract. While the positive growth effects of financial integration are extensively documented, little is known of its impact on small and young firms. This paper aims to fill this void relying on a panel of 60,000 firm-year observations on listed and unlisted companies in Eastern European economies to assess the differential impact of foreign bank lending on firm growth and financing. Foreign lending stimulates growth in firm sales, assets, and use of financial debt even though the effect is dampened for small firms. More strikingly, young firms benefit most from foreign bank presence, while businesses connected to domestic banks or to the government suffer. Overall, our findings suggest that foreign banks can help to mitigate connected-lending problems and to improve capital allocation.

JEL Classification: G21, L11, L14.

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1. Introduction

Neoclassical theory predicts that financial integration can foster growth in emerging markets because it permits capital from rich countries to be invested in economies with low savings but high growth opportunities. Thus far, empirical work has focused predominantly on the impact of equity market liberalization on growth. Henry (2000a,b, 2003), Bekaert et al. (2005), Mitton (2006), among others, show that equity market liberalization decreases the cost of capital, causes investment booms, and increases aggregate growth. Recent empirical firm-level evidence corroborates and extends these aggregate findings. Chari and Henry (2004), for example, document that companies with a larger free float and more liquid stocks tend to attract more investor interest and thus experience a larger decrease in their cost of equity than the other listed companies.

Some recent papers, however, find that smaller but listed companies are less financially constrained in financial markets that seem more integrated. Laeven (2003), for example, finds that financial deregulation benefits especially those smaller listed companies. Furthermore, Forbes (2006) shows that smaller listed firms are particularly hurt by the imposition of capital controls.

While listed companies seem to benefit from financial integration through a lower cost of equity capital, the impact of integration on unlisted firms has not yet been investigated and hence remains unclear. This is important, however, because in developing countries stock markets are often not well developed and few firms are listed (La Porta et al. (1998)). Growth prospects in those countries depend to a large extent on the creation of new businesses and the investment of unlisted companies.

This paper analyzes how the process of financial integration can benefit small and young firms including also unlisted companies—an issue thus far neglected in the literature. We thereby focus on a different aspect of financial integration—one that has captured a lot of attention in the policy debate (but less so in the academic community): foreign bank entry.

Companies in countries with underdeveloped equity markets and weak shareholder protection rely to a large extent on debt (specifically, on bank credit) to fund investment (Booth et al. (2001), Giannetti (2003)). Foreign banks may thus represent an invaluable source of capital for firms.

Foreign banks may not only have easier access to foreign capital than domestic banks do, but may also help to mitigate problems that afflict bank lending. In many developing countries, banks often lend to cronies (Laeven (2001), La Porta et al. (2003)). As a consequence, established companies owned by well-connected individuals receive funding even if they are inefficient, while young and potentially highly profitable firms face credit rationing. Foreign

banks, with fewer connections to local families, may therefore be more inclined to fund promising projects, rather than only those projects of well-connected or state-owned firms. Foreign banks may help new, entrepreneurial firms by breaking down barriers to entry and creating more competition (Rajan and Zingales (2003)).

There are reasons, however, why small firms may not be able to benefit to the full extent from financial integration, even in the case of foreign bank entry. Foreign banks may lack local information. As a result, the local branches of foreign banks may specialize in funding large firms and may overlook small firms. Such neglect may create concerns that foreign bank presence may hinder the financing and growth of small and young businesses, if foreign bank competition drives away domestic banks.

We explore the effects of and limits to financial integration in Eastern European economies. Eastern Europe represents an ideal environment for exploring these issues because it experienced large changes in foreign bank presence and comprehensive financial information on unlisted companies is available.

We face a potentially insidious endogeneity problem: foreign banks may tend to enter those countries that are expected to grow more. Not only do we study the effect of foreign lending on average firm growth, controlling for year, country and firm effects, but we also investigate which type of firms grows more and the mechanism through which foreign bank lending is expected to affect growth. Our identifying assumption follows Rajan and Zingales (1998). We assume that firms in industries that are more dependent on bank financing will benefit more from foreign bank presence if foreign credit is indeed more easily accessible. In robustness exercises, we also instrument our proxy for foreign bank presence with a measure capturing foreign bank regulation that affects the ability and willingness of foreign banks to enter the domestic market. Our results appear robust to the use of alternative methodologies and identifying assumptions. This robustness helps to mitigate any lingering doubts about the direction of causality.

Even though our analysis highlights the possible causal effects of foreign bank presence, we do not observe bank-firm relationships. Hence, it is beyond the scope of our paper to evaluate whether some firms benefit directly because they borrow from foreign banks or indirectly because foreign bank presence alters the lending policies at their domestic lenders.

Our findings suggest that foreign bank presence stimulates growth in firm sales, assets, and use of financial loans, and decreases the firms' cost of debt. Although large firms benefit more from foreign lending, small companies also profit from financial integration.

Most importantly, foreign banks appear to reduce problems of related lending. First, we find that in countries where foreign bank entry is stronger, younger firms receive more loans, have lower financial expenses, and consequently grow faster. Second, we conjecture that firms that have a domestic bank or the state as shareholders, and firms that own stakes in domestic banks, have easier access to finance. We thus refer to these firms as “connected”. We find that when foreign bank presence becomes more pervasive, in sharp contrast to young companies, connected firms receive fewer loans, grow less and pay a higher interest rate on their financial debt.

A few studies have already analyzed the lending practices of foreign banks, using data for developing countries. Mian (2006a) and Berger et al. (2001), for example, shows that foreign banks avoid lending to opaque firms. Clarke et al. (2001), and Clarke et al. (2002), on the other hand, find that foreign banks lend to small firms at least as much as domestic banks do. All these papers can provide a more detailed picture of foreign bank lending policies than ours, because they rely on data on actual bank-firm relationships. Nevertheless, our paper is the first to provide a dynamic description of the changes in foreign bank presence and to study the actual impact of these changes on firm growth, financing, and investment policies.

Our paper is also related to the literature on finance and growth that has followed the lead of King and Levine (1993a,b) in analyzing how financial development, in general, and banking system development, in particular, affect growth in a large cross-section of countries.¹ We evaluate a specific instance of financial development—namely, a situation where financial development is triggered by the integration of credit markets. Additionally, in contrast to most of the literature, we use firm-level data (rather than macro data). In this respect, our paper is closely related to Guiso et al. (2004) who analyze the effect of financial development on firm growth, entry, and capital structure and Bertrand et al. (2006) who study the effect of banking system deregulation on industrial structure. We complement their work by looking at the firm-level effects of changes in a different feature of the credit market: foreign bank presence.

The rest of the paper is organized as follows. Section 2 highlights the possible benefits and drawbacks of foreign bank entry for Eastern European economies. Section 3 introduces the methodology. Section 4 describes data and sample characteristics, while Section 5, 6 and 7 discuss the empirical results on firm growth and financing and their robustness. Section 8 concludes.

¹ Levine (2004) provides a comprehensive review of the literature.

2. Possible Effects of Foreign Bank Entry in Eastern European Economies

In countries with underdeveloped financial systems like Eastern European economies, financial integration should increase the supply of finance, improve its allocation, and thereby spur faster growth (Rajan and Zingales (1998), Guiso et al. (2004)). Foreign banks may not only enhance the availability of credit by directly lending to domestic firms, but also spur competition and strengthen the financial system, thus *indirectly* benefiting all firms (including those that do not directly borrow from foreign banks).

In this respect, foreign bank entry might have been particularly beneficial for Eastern European economies. After the fall of the communist regimes, Eastern Europe badly needed capital to restructure its real economy. In particular, state-owned enterprises had to modernize to survive in competitive markets. Additionally, Eastern European economies needed new small firms to provide basic consumer goods and services, and entrepreneurs lacked access to start-up capital.

The banking sector in Eastern Europe initially seemed inadequately small to satisfy this hefty demand for funds. In 1993, for example, domestic credit over GDP equaled around 55% in the transition countries in our sample, and average bank assets per capita were below 1,300 US Dollars (Source: *IMF International Financial Statistics Yearbook*). In contrast, in the other forty six developing countries, domestic credit over GDP actually exceeded 85% and average bank assets were above 1,500 US Dollars per capita. Bank assets in many developed European countries surpassed 40,000 US Dollars per capita. Foreign capital channeled by foreign banks contributed significantly to credit expansion (Boissay et al. (2005), Duenwald et al. (2005)). By 1997, for example, average bank assets in transition countries had already increased to almost 2,000 US Dollars per capita.

Besides affecting the total volume of credit, however, foreign bank entry can change its allocation across firms. In particular, being less able to collect “soft” information about local firms, foreign banks may refrain from lending to small firms, for which such information is more relevant (Berger and Udell (2002), Petersen (2004)).

The mode of foreign bank entry may also play a role in this regard. Mergers and acquisitions of domestic banks for example may harm the small local firms borrowing from the targets (Berger and Udell (1996), Peek and Rosengren (1996)). On the other hand, if foreign banks enter a new market by opening local branches, as primarily happened in Eastern Europe in the early nineties (De Haas and Lelyveld (2005)), their entry does not reduce the number of banks with local information. In this case, one would expect lending to small local firms not to suffer from foreign entry.

Although access to credit for small and young firms may tighten when foreign bank presence is substantial, the net impact on these firms still need not be negative. The ownership structure of domestic banks often leads to lending practices that are far from sound. Governments and shareholders of nonfinancial companies often control domestic banks in developing countries. State or corporate control may give rise to conflicts of interests, with pernicious effects on access to credit for young and small borrowers.

La Porta et al. (2003), for example, find that Mexican banks make larger loans at a lower interest rate to related companies, which are then more likely to default. Similarly, state-owned banks are often driven by political considerations (Sapienza (2004) and Mian (2006b)). This empirical evidence suggests that the lending decisions of domestic banks with state or corporate control may not be driven by the solvency and expected profitability of credit applicants, so that solvent and profitable companies without connections may not receive credit. Young and small companies, being less likely to have this sort of bank ties, are likely to suffer the most.

Problems of related lending are pervasive in Eastern Europe. La Porta et al. (2002) estimate that governments in Eastern Europe still controlled almost 70% of all bank assets in 2000, while in the other countries of their sample governments controlled an average of 40% of total bank assets. Anecdotal evidence suggests that state-owned banks are mobilized to support employment in state-owned or even recently privatized enterprises, more than to fund profitable ventures.² Corporate control of banks creates similar problems. Laeven (2001), for example, finds that banks in Russia often grant larger loans to companies that own equity in the bank.

Rajan and Zingales (2003) propose that openness to trade and cross-border capital flows favor financial development and may reduce related lending. We test whether opening the domestic financial sector to foreign competition helps to mitigate related lending and thus improves allocative efficiency. Foreign banks are naturally unencumbered by any domestic ownership ties and political motivations in making lending decisions. This is likely to facilitate credit access for profitable firms untainted by any past bank or state ownership ties, and to reduce credit access for well-connected companies. To the extent that small and young firms are unlikely to have connections, they may benefit from foreign bank entry. If foreign banks enter by acquiring local distressed banks or state-owned banks, often plagued by ill-conceived and corrupt lending policies in Eastern Europe, their ability to mitigate connected lending may be further reinforced.

² See Simonson (2001) for evidence on the Czech Republic.

3. Methodology and Identification

Identifying the effects of foreign bank entry is no easy task and poses problems similar to the identification of the effects of financial development on growth. The mere correlation between financial development and growth cannot be interpreted as evidence of causality because financial markets may develop in the anticipation of future opportunities. Analogously, foreign banks may enter and lend more in countries that are expected to experience greater growth in the future.

Eastern Europe represents an ideal environment for tackling these identification problems. Not only has foreign ownership exhibited considerable variation across countries and over time, but also countries have adopted markedly different policies towards the entry of new banks, foreign bank ownership and bank privatization (Barros et al. (2005)). For instance, Poland opened up early to foreign investors, and then took a more restrictive stance, so that it eventually kept a considerable fraction of bank assets under government control. Others, like the Czech Republic or Slovenia, waited until very late to invite foreign investors into the banking system. Still other countries, such as Hungary, sold off the bulk of their banking system overnight.

In other words, foreign banks entered countries exhibiting diverse conditions at different stages of transition. Since reforms occurred in varying stages of the transition process to the market economy, we can control for concurrent reforms and macroeconomic conditions that may also have affected firm performance, financing decisions and capital structure.

We endeavor to establish a causal link between foreign bank presence and firm performance in two ways. Our first approach is to use regulation dealing with foreign bank entry as an instrument for foreign bank lending. Using the chronology of economic, political and financial events in emerging markets compiled by Bekaert and Harvey (2004), we construct a variable that captures the improvement or worsening of conditions for foreign banks, such as the ability to open branches or the abolition of reserve requirements on bank open liabilities. Starting from zero, we add one if there is regulation relaxation, and subtract one in case of regulation tightening. We then use lagged changes in this institutional variable as instrument to identify the effect of changes in foreign bank lending on firm performance.³ While regulation dealing with foreign bank entry is unlikely to have a direct effect on firm performance (i.e., an effect not through foreign lending), we recognize that lobbying by domestic or foreign banks may have affected the drafting of such regulations. If so, our instrument would be invalid and would not allow us to establish a causal link.

³ This is a direct consequence of the inclusion of country fixed effects.

For this reason, our second approach—on which we rely more heavily—is to identify the effect of foreign bank entry along the lines suggested by Rajan and Zingales (1998) and subsequently applied to firm-level data by Bertrand et al. (2006). We posit that firms that are more dependent on bank loans should be those that benefit more from foreign bank presence if the latter indeed improves credit access and allocation. We distinguish the effect of foreign bank presence across firms belonging to industries with different degree of bank dependence (*à la* Rajan and Zingales (1998)). Additionally, we explore whether foreign banks affect small, young or connected firms belonging to industries with high bank dependence differently from similar firms in other industries. In these specifications, we are able to include country and sector specific trends.

Even if average firm growth and foreign bank lending were correlated because of an omitted common factor (not captured by country and sector specific trends and by our extensive controls), it would be difficult to argue that such an omitted common factor affects the relation between foreign bank lending and firm growth in a systematic way for firms with different bank dependence. We further consider various aspects of firm growth, and look at the financing mechanisms through which foreign lending may affect them.

Finally, in all specifications we include controls for financial development, protection of creditor rights, economic performance, country openness, banking market competition, and contemporaneous reforms, which capture virtually all of the alternative channels through which aspects of the institutional framework, potentially correlated with foreign bank presence, can affect firm growth.

4. Data and Sample Characteristics

4.1 DATA SOURCES

We use data from a variety of sources. To construct our firm-specific variables, we use the 2003 edition of the *Amadeus* database compiled by *Bureau Van Dijk*. We extract consolidated financial statements and other firm-specific information for firms in fourteen Eastern European transition countries, listed in Table I, for the years 1993 to 2002.

We exclude Western European countries (also included in *Amadeus*), because most of these countries did not have a substantial foreign bank presence, nor did they experience foreign bank entry or reforms affecting foreign lending during the sample period. Assets of foreign bank branches and subsidiaries remained virtually constant in all Western European countries during the last few decades and never exceeded more than 15% of total bank

Table I. Sample characteristics

The table reports by country the number of firms, foreign bank lending, firm assets, age, and asset growth in the indicated year						
By country	2000 number of firms	1996 foreign bank lending in %	2000 foreign bank lending in %	2000 firm assets in million US\$	2000 firm age in years	2000 firm asset growth in %
Bulgaria	1,661	3.4	43.6	9.1	30.0	10.7
Croatia	1,134	0.0	17.5	34.0	32.5	9.6
Czech Republic	3,995	53.3	52.5	22.7	11.1	12.1
Estonia	501	9.5	93.5	15.1	15.1	16.2
Hungary	2,354	41.6	61.1	24.2	10.4	22.4
Latvia	594	40.7	71.8	13.0	9.9	11.3
Lithuania	354	19.9	74.9	21.5	10.0	13.3
Poland	7,487	20.1	61.0	28.9	13.6	9.2
Republic of Macedonia	335	0.0	7.0	91.2	31.9	1.2
Romania	3,318	0.2	45.5	13.2	9.7	22.1
Russian Federation	22,042	17.1	14.5	13.7	7.8	8.9
Slovak Republic	1,134	5.8	40.7	85.1	11.4	0.5
Slovenia	805	6.9	1.6	40.3	17.2	3.5
Ukraine	7,239	3.7	4.4	13.6	19.7	11.6
Average	3,782	15.9	42.1	30.4	16.5	10.9
Average 1996 foreign lending > 20%	3,607	38.9	61.6	22.2	11.3	13.8
Average 1996 foreign lending < 20%	3,852	6.7	34.3	33.6	18.5	9.7

assets in Finland, France, Germany, Greece, Italy, the Netherlands, Spain, and Sweden. In addition, given their already high level of financial development, foreign bank entry in Western European countries may also be less relevant in spurring domestic financial deepening (Guiso et al. (2004)). More importantly, since our data does not allow the matching of banks and firms, we can identify the effects of foreign lending only to the extent that foreign banks significantly affect the aggregate amount of credit to firms.

To be included in our sample, a company must meet (at least) one of the following three criteria: (1) its operating revenues are at least 10 million Euros, (2) its book assets are at least 20 million Euros, and (3) it has at least 150 employees.⁴ This implies that the typical firm in our sample is considerably larger than, for example, the small businesses included in the US National Survey of Small Business Finances run by the Board of Governors of the Federal Reserve System.

To the best of our knowledge, the version of Amadeus that we employ provides the best currently available financial coverage of unlisted companies in emerging markets. Our sample design criteria are motivated by four considerations. First, although we could have included all limited-liability companies (by relying on a different version of Amadeus), accounting information and other firm characteristics (including sales and number of employees) for these additional firms are extremely poor.⁵ Additionally, the coverage of the smallest firms varies greatly across countries, especially during the first few years in the sample period; in 1995, for example, the cutoffs exclude only ninety three firms in Bulgaria, but around 1,000 firms in the Czech Republic. Restricting the sample to medium and large firms limits the problem of inconsistency in sample coverage and unreliability of financial information across countries and over time.

Second, our criteria need not all be satisfied at once nor are they particularly stringent, individually taken. Bertrand et al. (2006), for example, adopt similar cutoffs in their sample design. Third, firm ownership data, a key variable in our investigation, is almost never available for the very small excluded firms. Finally, very small and young firms in Eastern European transition countries hardly rely on bank financing (Bonin and Wachtel (2003)), not unlike their counterparts in other countries (see e.g., Berger and Udell (1998)).

⁴ The criteria are somewhat more restrictive for larger countries (in our sample, the Russian Federation and Ukraine): cutoffs equal 15 million, 30 million and 200, respectively. We make sure in the robustness analysis that these differences in coverage for different countries do not affect our results.

⁵ To ensure consistent coverage, Desai et al. (2005) and Klapper et al. (2006) also exclude companies without financial information. We use the same version of Amadeus (even though with a more recent sample period) as Giannetti (2003).

Consequently, we include firms for which bank financing, and foreign bank lending in particular, may actually play a role.

Overall, our sample includes predominantly unlisted companies (only 2,036 of the companies we include in our sample are listed on a stock exchange), and covers a major part of production in Eastern Europe.

Coverage of firm financial information expanded steadily throughout the sample period (particularly from 1997 to 1998), which makes the sample highly unbalanced. In 1993, for example, we have information on the main balance sheet items for 1,673 firms, while in 2002, 23,541 firms were covered. On average, the firms covered in 1993 have seventy more employees but surprisingly a similar average age and return on assets to the firms covered in 2002. Additionally, some companies disappear from the sample because they have merged, been acquired or gone out of business. We observe only the exits that occurred in the most recent 5 years, because Bureau Van Dijk deletes companies that have not been operational for more than 5 years. This creates a sample selection bias for older companies, which must be taken into account in interpreting our results. While we recognize that these coverage problems may induce sample selectivity, most of the observations come from companies that (as noted above) entered the sample in the last 5 years, thereby limiting the possible survivorship bias. Additionally, the results we present in the next sections are robust to using only the last 5 years of the sample.

To identify foreign bank ownership, we start from the 2003 edition of *Bankscope*, also distributed by Bureau Van Dijk. Bankscope only provides information on current ownership; to construct a time-varying proxy for foreign bank ownership, we turn to previous editions of Bankscope, and to *SDC Platinum* (distributed by Thomson Financial) and *Zephyr* (distributed by Bureau Van Dijk). The latter two databases identify acquisitions by foreign banks of Eastern European banks.

Finally, we obtain foreign direct investment from UNCTAD, GDP from the *World Development Indicators*, and the indices of country reform from Campos and Horvath (2006) and the *International Country Risk Guides*. Additionally, as explained in Section 3, we rely on Bekaert and Harvey (2004) for a chronology of economic, political and financial events, and on Pistor et al. (2000) for an index of creditor rights.

4.2 DESCRIPTIVE STATISTICS

Financial system variables

Table I reports sample characteristics by country. For each country we report the number of firms, foreign bank lending as a percentage of total bank

lending, and average firm assets, age and growth in assets in the year 2000 (a typical year for which coverage is optimal).

Our main proxy for foreign bank presence is the percentage of foreign lending (Foreign Lending). We define Foreign Lending as the ratio of loans extended by foreign banks to total bank loans in a given country. A bank is defined as foreign if foreign individuals, corporations, financial institutions or governments combined own more than 50% of the bank. This cutoff is similar to the one used in previous literature (see, for instance, Mian (2006b)), and reflects common majority voting rules. As the distribution of foreign ownership is highly bimodal, changing the cutoff hardly affects the results. Indeed, 63% of all banks in the sample are 100% domestically owned. While foreigners own (more than zero but) less than 50% in only 11% of the banks, they own more than 90% in almost 20% of the cases.

Foreign ownership is also more concentrated than domestic ownership. The sum of squared shares of ownership concentration for domestic banks, for example, is only around 0.25; for foreign banks it is almost 0.75 (the difference is statistically significant at the 1% level). Hence, foreign banks are controlled by one or two foreign blockholders.

On average, across the countries and the years of our sample, the percentage of foreign lending equals 37.9%, but there is a large variation in foreign bank lending across the 14 countries and across time. The percentage foreign bank lending in 1996, for example, ranges from zero in the Republic of Macedonia to almost 54% in the Czech Republic; across all countries, foreign lending increased more than 25% in only 4 years, from 16% in 1996 to 42% in 2000.

In all the specifications we report, we also include two other key financial system variables, financial development, proxied by the ratio of total bank lending to GDP, and an index of creditor rights that measures the creditors' control of the bankruptcy process (Pistor et al. (2000)) and compare their explanatory power with that of foreign lending.

Firm performance and financing

Table I also splits the countries into a high- and a low-foreign-lending group, based on 1996 data (cutoff: 20%). Foreign lending in the low group increases somewhat faster. In addition, firm assets and age are higher, and asset growth is lower in the low group. Thus, firms appear to be smaller and younger and to grow faster in countries where foreign banks are lending more, which demonstrates the value of investigating the differential impact of foreign lending on firm performance within each country.

We measure firm performance by sales and asset growth. As often argued, firm growth should be partly determined by the availability of credit. Some

observations on firm sales and assets seem excessively large. To limit the influence of these outliers, we censor all growth rates (and financing variables below) at the 1 and 99 percentiles—admittedly *ad hoc* cutoffs. Given the many observations and controls in our empirical models, our key results should not be affected. Table II reports firm sales averaged across the sample in US Dollars.

We define sales growth as $\ln(\text{Sales}_{t+1}/\text{Sales}_t)$ and present it in percentage terms in all specifications. We denote this variable in the tables as $\Delta\ln(\text{Sales})$. Mean sales growth thus defined equals 11.3%. Similarly defined, mean asset growth equals 4.0%.

We further assess the effect of the availability of credit on the changes in the capital structure of a firm by focusing on the increase in financial debt between $t-1$ and t relative to the firm's total assets at time t ($\Delta\text{Debt}/\text{Assets}$).⁶ Wider availability of credit should increase the use of financial loans. Consistently with this interpretation, the mean change in this variable equals 1.5%.

Finally, we assess the effect of foreign bank presence on the cost of debt, which we compute from firm financial statements as the interest expenses scaled by total financial debt, and the use of trade credit, which we proxy with the ratio of payables to sales. Trade credit is generally considered a more expensive source of external finance than bank loans (Petersen and Rajan (1994)). Hence, if foreign bank presence relaxes financing constraints for some companies we would expect a reduced reliance on trade credit.⁷

Firm characteristics

To analyze the differential effect of foreign bank presence (financial development and creditors' rights) across firms, we focus on two important firm characteristics: size and age. Firm *size* is a common measure of firm access to external funds and visibility. Smaller firms are typically expected to grow faster. However, to the extent that foreign banks have difficulties in handling soft information or choose to focus on large firms, the growth of small firms and their ability to increase their debt may be stunted. We measure firm size by the logarithm of the number of employees. The mean (median) number of employees equals 645 (296).

⁶ Our definition allows us to focus on firm ability to increase the use of financial loans in funding current assets and minimizes the impact of changes in assets on leverage.

⁷ Trade credit theories predict that bank loans and trade credit can be either complements or substitutes for financially constrained companies (see Burkart et al. (2005) for a summary of the implications of trade credit theories). However, a simultaneous decrease in trade credit and increase in financial loans rule out that trade credit and financial loans are complements. Hence, theory suggests that companies that receive more bank loans and use less trade credit become less financially constrained.

Table II. Variable definitions

The table reports the variable names, definitions, data source (S), unit (U), mean, standard deviation (SD), and the 25, 50, and 75 percentiles for the main variables. The sample includes the maximum number of observations (Obs) available or used in the estimations from 1993 to 2002. Data sources (S) include: *Amadeus* (A), *Bankscope* (B), *Bekaert and Harvey (2004)* (H), *Campos and Horvath (2006)* (C), the *International Country Risk Guide* (I), *Pistor et al. (2000)* (P), various country stock market publications (S), *UNCTAD* (U) and *World Development Indicators* (W). The units (U) used are: percentage (%), thousands (T), years (Y), and millions of US Dollars (\$)

Variable Groups	Variable Names	Definition	S	U	Mean	SD	25%	50%	75%	Obs
<i>Dependent firm variables</i>										
Sales	Firm sales	Firm sales	A	\$	184.1	6,304	1	3	9	57,453
$\Delta \ln(\text{Sales})$	$= \ln(\text{Sales}_t / \text{Sales}_{t-1})$		A	%	11.3	57.4	-11	8	30	57,453
Assets	Firm assets	Firm assets	A	\$	231.6	6151.8	1	3	11	63,593
$\Delta \ln(\text{Assets})$	$= \ln(\text{Assets}_t / \text{Assets}_{t-1})$		A	%	4.0	44.7	-15	1	20	63,593
Debt/Assets	Ratio of firm financial debt to total assets		A	%	13.9	19.8	0	5	20	50,400
$\Delta \text{Debt}/\text{Assets}$	$= (\text{Debt}_t - \text{Debt}_{t-1}) / \text{Assets}_t$		A	%	2.6	22.1	-3	0	3	50,400
Trade Credit/Sales	Ratio of firm payables to total assets		A	%	191.2	52.9	6	13	27	44,475
Interest/Debt	Ratio of firm interest payments to total financial liabilities		A	%	23.3	17.3	8	17	32	34,827
$\ln(\text{Interest}/\text{Debt})$	$= \ln(\text{Interest}_t / \text{Debt}_t)$		A	%	19.7	15.9	7	16	28	34,827
<i>Independent country financial system variables</i>										
Foreign Lending	Ratio of foreign loans to total bank lending in country j , year t		B	%	19.8	22.3	4	11	31	63,593
Financial Development	Ratio of total bank lending to GDP in country j , year t		B	%	17.7	15.9	6	10	31	63,593
Creditors' Rights	Creditor's control of the bankruptcy process, including reorganization consent		P	—	3.3	1.3	3	4	4	63,593
Eastern European Loans	Ratio of foreign loans from Eastern Europe to total bank lending in country j , year t		B	%	0.4	0.2	0	0	0	69,313
<i>Independent country control variables</i>										
Stock Market Returns	Yearly return on market index in country j , year t		S	%	23.7	74.2	-10	12	38	74

Table II. (Continued)

Variable Groups	Variable Names	Definition	S	U	Mean	SD	25%	50%	75%	Obs
Herfindahl–Hirschman Index	Sum of squared market shares in bank loan market in country j , year t		B	—	0.3	0.2	0.1	0.2	0.4	170
	Ratio of the total FDI inward stock to GDP in country j , year t		U	%	13.9	13.7	3.4	10.2	18.9	165
<i>Independent country reform indices</i>										
Internal Liberalization	Index of internal liberalization in country j , year t		C	—	0.7	0.2	0.5	0.8	0.9	126
	Index of external liberalization in country j , year t		C	—	0.5	0.2	0.3	0.4	0.6	126
Privatization	Index of privatization in country j , year t		C	—	0.4	0.2	0.3	0.4	0.5	125
	Index of democratic accountability in country j , year t		I	—	4.6	1.1	4	5	5	115
Bureaucracy Quality	Index of bureaucratic quality in country j , year t		I	—	2.4	0.8	2	2.5	3	115
	Index of corruption in country j , year t		I	—	3.3	1.1	2.9	3.2	4	115
Law and Order	Index of law and order in country j , year t		I	—	4.6	0.9	4	5	5	115
	Ratio of financial loans to total liabilities in sector i		A	%	31	10	25	30	34	812
<i>Independent firm variables</i>										
Firm Employees	Firm number of employees		A	—	645.3	1,848	200	296	557	57,453
	$\ln(\text{Firm employees}_i)$		A	—	5.7	1.3	5	6	6	57,453
d(Firm Employees)	A dummy variable that equals one if the firm number of employees is larger than 300 (median)		A	—	0.5	0.5	0	1	1	57,453
	Firm age		A	Y	17.8	20.8	9	11	13	57,453
Firm Largely Owned by Bank or State	$\ln(\text{Firm age}_i)$		A	—	2.5	0.7	2	2	2	57,453
	A dummy variable that equals one if the firm's largest shareholders are a bank or the state or if the firm is directly or indirectly a large shareholder in a bank		A	—	0.02	0.1	0	0	0	57,453
<i>Instrumental variables</i>										
Foreign Bank Regulation	Regulation on foreign bank branching		H	—	−0.04	0.8	−1	0	0	170

Firm *age*, measured in years, commonly stands for the public track record of the firm, and is introduced in logarithmic form to capture the decreasing informational content of such a record as the firm ages. Younger firms are generally smaller, although the partial correlation between the proxies for age and size in our sample is actually less than 1%. Like small firms, young firms are expected to grow faster.

The effect of foreign bank lending on credit access by young firms is ambiguous. On the one hand, like small firms, they may benefit little from foreign banks' lending, due to the latter's disadvantage in handling private information. On the other hand, young firms may be discriminated by domestic banks if their lending policies are plagued by connected lending, and therefore may benefit from foreign banks' entry—to the extent that these are more likely to base their lending decisions on profitability criteria.

We identify firms that may receive preferential treatment from domestic banks using information on the firms' largest shareholders reported in Amadeus and Bankscope. First, we conjecture that firms that have a domestic bank as one of their main direct or indirect shareholders have easier access to domestic loans. We identify the firms' direct and indirect shareholders and their type directly from Amadeus. Similarly, firms that own blocks in domestic banks are expected to have easier access to bank loans. From Bankscope, we observe the banks' shareholders (and their identification number if these shareholders are firms included in Amadeus). Hence, we can establish whether the sample firms are direct or indirect shareholders in domestic banks. Finally, government-owned firms are also expected to have preferential access to loans, especially from government-owned banks. From Amadeus, we observe whether the sample firms have the government as shareholder.

We posit that firms that have the government or a bank as direct or indirect shareholder or which own a block in a domestic bank have easier access to finance. We define a firm as connected if we are able to identify any of these ownership ties. We also explore whether government ownership or ownership ties with banks have a differential effect on firm performance and on how firms react to foreign bank presence.

We recognize that our proxies are likely to underestimate connections for two reasons. First, ownership data may be inaccurate for some firms, leading us to underestimate ownership ties. Second, and perhaps more importantly, weaker connections may still have large effects on access to credit. For instance, firms have been shown to benefit if some of their top officers are politicians (Faccio (2006)). We have no way to identify top officers in such a large sample of unlisted companies. Nevertheless, our narrow measure of connections helps to identify companies that should have the easiest access to domestic banks. We

can then compare their performance with the other sample firms, which being mostly unlisted and relatively small are unlikely to have political connections.

Other independent variables

We also include firm dummies (or up to fourteen country dummies and ten industry dummies if we exclude firm dummies) and nine year dummies to control for firm, country, industry and business cycle effects. In addition to the independent variables discussed already, we include a set of country-specific time-varying control variables, such as stock market returns, the ratio of FDI to GDP, a measure of competition in the banking sector, and seven indices capturing institutional reforms, corruption and bureaucracy quality (to control for the effect of a country's institutional and legal framework on the growth and financing of the corresponding firms). All these additional control variables and their sources are summarized in Table II. Finally, in the regressions in which we exploit differences in financial dependence across sectors, we include year-sector and year-country dummies in order to control for country- and sector specific trends.

5. Benchmark Results

5.1 FIRM GROWTH

Correlations

To assess the differential impact of foreign bank lending on firm growth, we first investigate how foreign bank presence is correlated with firm performance. From these correlations, we cannot draw conclusion about causation. However, these specifications are easier to interpret than the estimates using cross-industry differences in financial dependence, which we use later to identify the causal effect of foreign bank presence. Our initial estimates thus provide useful insights about direction and size of the effects.

We estimate firm fixed-effects models and correct all standard errors for clustering at the firm-year level.⁸ The estimates reported in Table III are consistent with the notion that foreign bank presence does not stunt firm growth. Model 1 shows that the percentage of foreign lending has a positive and highly statistically significant effect on firm growth.

In Model 2, we control for the two main channels that can explain the positive correlation between foreign lending and firm growth even if foreign

⁸ The estimates and their statistical significance are qualitatively invariant if we include country-year random effects and cluster errors at the country-year level.

Table III. Firm growth and financing
Panel A. Estimates

The panel reports the estimated coefficients and significance levels. All models with the exception of Model IV are estimated by ordinary least squares. Model IV is estimated by instrumental variables. The instrument for the percentage of foreign lending is foreign bank regulation. Robust standard errors that are corrected for clustering at the firm-year level are reported in parentheses. The dependent variables are the growth rate of sales in Models 1 to 4, the growth rate of assets in Model 5, the increase in financial debt relative to total assets in Model 6, and the logarithm of the ratio of interest expenses and debt in Model 7. The definition of the variables can be found in Table II. *, **, and *** significant at 10 percent, 5 percent and 1 percent level, two-tailed.

Model	1	2	3	4	5	6	7
	OLS	OLS	OLS	IV	OLS	OLS	OLS
Dependent Variable	$\Delta \ln(\text{Sales})$	$\Delta \ln(\text{Sales})$	$\Delta \ln(\text{Sales})$	$\Delta \ln(\text{Sales})$	$\Delta \ln(\text{Assets})$	$\Delta \text{Debt}/\text{Assets}$	$\ln(\text{Interest}/\text{Debt})$
Number of Observations	62,767	62,767	62,767	62,767	69,237	50,305	31,662
<i>Foreign Bank Presence</i>							
Foreign Lending	71.64*** (2.86)	59.62*** (2.82)	62.35*** (4.38)	224.69*** (13.82)	14.82*** (2.97)	31.43*** (3.06)	-7.96*** (1.97)
Foreign Lending $\times$ d(Firm Employees)			4.91** (2.49)	-2.59 (4.81)	5.48*** (1.81)	-0.48 (1.50)	-3.10*** (0.87)
Foreign Lending $\times$ ln(Firm Age)			-3.73** (1.54)	-21.65*** (2.94)	-5.90*** (1.07)	-2.43** (1.12)	2.69*** (0.61)
<i>Other Characteristics of the Institutional Environment</i>							
Financial Development		-17.50*** (0.49)	-12.57*** (0.59)	-28.64*** (2.67)	-6.62*** (0.38)	2.73*** (0.34)	0.69** (0.30)
Financial Development $\times$ d(Firm Employees)			0.98** (0.48)	3.77*** (0.45)	0.53 (0.35)	0.59** (0.25)	-0.36** (0.16)
Financial Development $\times$ ln(Firm Age)			-2.61*** (0.18)	2.11*** (0.33)	-3.82*** (0.12)	-0.44*** (0.09)	0.00 (0.06)
Creditor Rights		19.10*** (0.61)	20.82*** (0.59)	9.95*** (1.03)	17.28*** (0.42)	7.97*** (0.37)	1.18*** (0.25)
Creditor Rights $\times$ d(Firm Employees)			-2.94*** (0.33)	-1.71*** (0.30)	-0.86*** (0.23)	-0.65*** (0.18)	0.28*** (0.14)

Table III. (Continued)

Model	1 OLS	2 OLS	3 OLS	4 IV	5 OLS	6 OLS	7 OLS
Dependent Variable	$\Delta \ln(\text{Sales})$	$\Delta \ln(\text{Sales})$	$\Delta \ln(\text{Sales})$	$\Delta \ln(\text{Sales})$	$\Delta \ln(\text{Assets})$	$\Delta \text{Debt/Assets}$	$\ln(\text{Interest/Debt})$
Number of Observations	62,767	62,767	62,767	62,767	69,237	50,305	31,662
Creditor Rights $\times$ $\ln(\text{Firm Age})$			0.19 (0.21)	2.64*** (0.28)	0.15 (0.14)	-0.83*** (0.12)	-0.11 (0.09)
Other Control Variables							
$\ln(\text{Firm Employees})$	-19.06*** (0.55)	-18.89*** (0.99)	-18.82*** (0.55)	-7.71*** (0.37)	-14.99*** (0.38)	-2.19*** (0.27)	0.45* (0.23)
$\ln(\text{Firm Age})$	-17.88*** (0.46)	-15.24*** (0.69)	-11.81*** (0.68)	-16.62*** (1.17)	-2.65*** (0.47)	-0.33 (0.32)	1.55*** (0.27)
Firm Largely Owned by Bank or State				10.47*** (1.69)			
Stock Market Returns	0.08*** (0.01)	0.08*** (0.01)	0.11*** (0.01)	0.00 (0.01)	0.13*** (0.00)	-0.04*** (0.00)	-0.01*** (0.00)
Foreign Direct Investment	-4.69*** (0.15)	-6.06*** (0.16)	-5.70*** (0.15)	-8.96*** (0.32)	-3.81*** (0.10)	0.24*** (0.08)	0.14** (0.06)
Herfindahl-Hirschman Index	130.34*** (3.55)	260.37*** (5.97)	268.73*** (4.71)	192.91*** (9.06)	147.21*** (3.11)	57.94*** (2.82)	7.50*** (1.86)
Reform Indices	No	No	No	Yes	No	No	No
Country & Industry Dummies	No	No	No	Yes	No	No	No
Constant & Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Effects	Fixed	Fixed	Fixed	No	Fixed	Fixed	Fixed
R-squared	0.27	0.32	0.32	0.19	0.36	0.14	0.46

Table III. (Continued)
Panel B. Economic significance

The panel reports the percentage changes in the dependent variables as a result of approximately a one standard deviation change of Foreign Lending (from 10 to 30 percent), Financial Development (from 10 to 25 percent), and Creditor Rights (from 3 to 4). The dependent variables are the growth rate of sales in Models 1 to 4, the growth rate of assets in Model 5, the increase in financial debt relative to total assets in Model 6, and the logarithm of the ratio of interest expenses and debt in Model 7. The definition of the variables can be found in Table II. *, **, and *** significant at 10 percent, 5 percent and 1 percent level, two-tailed.

Model	1 OLS	2 OLS	3 OLS	4 IV	5 OLS	6 OLS	7 OLS
Dependent Variable	$\Delta \ln(\text{Sales})$	$\Delta \ln(\text{Sales})$	$\Delta \ln(\text{Sales})$	$\Delta \ln(\text{Sales})$	$\Delta \ln(\text{Assets})$	$\Delta \text{Debt/Assets}$	$\ln(\text{Interest/Debt})$
Number of Observations	62,767	62,767	62,767	62,767	69,237	50,305	31,662
<i>Foreign Bank Presence</i>							
Foreign Lending	17.26***	14.19***	14.88***	63.56***	3.13***	6.29***	-1.92***
Foreign Lending $\times$ d(Firm Employees)			1.10**	- 0.58	1.15***	-0.10	-0.75***
Foreign Lending $\times$ ln(Firm Age)			- 2.07**	-11.49***	- 3.03***	0.68**	1.65***
<i>Other Characteristics of the Institutional Environment</i>							
Financial Development		- 2.90***	- 2.09***	- 4.71***	- 1.03***	0.41***	0.13**
Financial Development $\times$ d(Firm Employees)			0.17**	0.64***	0.08	0.09**	-0.06**
Financial Development $\times$ ln(Firm Age)			- 1.74***	1.43***	- 1.48***	0.07***	0.00
Creditor Rights		23.58***	25.93***	11.73***	19.64***	7.97***	1.45***
Creditor Rights $\times$ d(Firm Employees)			- 3.24***	- 1.89***	- 0.90***	-0.65***	0.34**
Creditor Rights $\times$ ln(Firm Age)			0.06	12.46***	0.39	0.83***	0.14

banks have no beneficial role in the allocation of credit. First, foreign bank presence may affect firm performance by increasing the quantity of credit. If this were the case, we should find no effect of foreign lending once we control for financial development. Second, an improvement in creditor rights may improve business conditions (Desai et al. (2005)). If we did not control for creditor rights, we could erroneously attribute the effect of improved business conditions to foreign bank presence.

When we control for these alternative channels, the coefficient of foreign lending is smaller as expected, but remains highly significant from an economic point of view. As shown in Panel B in Table III, an increase in foreign lending from 10 to 30% (approximately one standard deviation around the mean) is associated with a 17% increase in sales growth in Model 1, and with a 14% increase in Model 2.

Additionally, an increase in the index of creditor protection from three to four is associated with a 25% increase in growth. Previous studies suggest that besides affecting business conditions protection of creditor rights may have an indirect impact also through foreign bank lending.⁹ Insofar as we control also for this indirect effect of creditor protection, we bias our estimates against finding evidence of an impact of foreign bank lending on growth. Thus, the estimates are consistent with foreign lending being a key conduit through which financial integration determines growth. More surprisingly, as we will discuss later on, financial development appears negatively related to firm growth.

Next we explore if all firms benefit from foreign bank presence to the same extent by including interactions of foreign lending with firm size and age. We include such interaction terms also for financial development and the creditor rights index in order to control for the main alternative channels. In Model 3, the interaction terms suggest that smaller firms grow more slowly (and in some instances not at all) as foreign bank presence increases. The effects are significant not only from a statistical but also from an economic point of view. An increase in foreign lending from 10 to 30 percent entails that firms larger than 300 employees (approximately the median) grow more than 1% faster than firms smaller than this cutoff.

The result that small firms grow more slowly when foreign bank presence increases is in line with common fears that small firms are hurt when foreign banks enter and suggests that the inability of foreign banks to use soft information may indeed be a handicap.

⁹ Haselmann et al. (2005), for example, find that foreign banks increased their lending volume following the legal changes during the Eastern European transition to a larger extent than domestic banks. Similarly, Esty (2004) and Strahan and Qian (2006) find that foreign banks are more inclined to participate in loan syndicates in countries with stronger creditor rights.

Our results contrast with the work by Clarke et al. (2001) who do not find significant differences between the impact on small and large firm growth, possibly because of data and methodological issues. For instance, they are not able to control fully for differences in country growth opportunities (as we do), and most importantly they evaluate the effects of foreign bank presence only through the entrepreneurs' declared ease in accessing credit. In a recent paper, using survey evidence from a cross-section of Eastern European firms, Brown and Rueda Maurer (2005) confirm our finding that large firms perceive access to credit to be easier in countries with higher foreign bank presence. They however find no differences in perceived access to credit for small firms across countries with different foreign bank presence. Since they rely on a cross-section, however, they are unable to evaluate whether financial constraints are relaxed also for small firms, as we find.

Foreign banks appear to boost particularly the growth of young companies. When foreign bank lending increases from 10 to 30%, firms younger than 3 months grow more 16% faster, while 18-year-old firms (the average age in our sample) by less than 13% faster.

Instrumental variable estimation

So far we have only shown correlations. Model 4 goes a step towards showing that the previous evidence is consistent with causality. We follow an identification strategy similar to Jayaratne and Strahan (1996). They use the deregulation of bank branches in the US as an instrument to show that improvements in the quality of bank lending are positively related to economic performance. Similarly, we use improvements of conditions for foreign banks (Foreign Bank Regulation) to instrument foreign bank presence.

Besides this instrument, the different specifications of the first-stage regression (not reported) also include year dummies, country dummies and the other controls that are featured in the second stage. The instrument has a significantly positive coefficient in all specifications: a relaxation of explicit barriers for foreign banks is associated with greater foreign bank lending. We instrument foreign bank presence and its interactions with firm characteristics, with our measure of changes in regulation of foreign banks and with interactions between the latter and the corresponding firm characteristics.

Our instrumental variable estimates show that, if anything, the positive correlation between foreign lending and firm performance is even larger than with ordinary least squares. Additionally, while foreign lending still benefits young firms, we find no negative effect on small firms. The role played by financial development or creditor rights seems unaffected.

To be able to interpret the relation between foreign bank presence and firm performance as a causal relation (as in Jayaratne and Strahan (1996)), it is necessary to assume that foreign banks cannot influence foreign bank regulation.¹⁰ This is likely since foreign banks are (initially at least) not part of the relevant domestic constituency. However, to establish a causal link, one must also assume that domestic banks and other economic agents did not influence foreign bank regulation in a way that is systematically correlated to expected firm performance.¹¹

As discussed in Section 3, we acknowledge that we cannot provide a statistical proof that our instrument is valid. For this reason, in the next section, we will exploit industry differences in bank dependence *à la* Rajan-Zingales and bring more convincing evidence about the causal effect of foreign bank presence on firm performance.

Other findings

All the results presented so far are robust to the use of alternative measures of firm performance such as the growth of assets (Model 5) or the return of assets (unreported). Our estimates suggest that foreign banks allow firms to invest more and possibly undertake more profitable projects.

It is interesting to note that in almost all specifications discussed so far the index of protection of creditors' rights is positively related to firm growth, and more so for smaller and older firms. As noted before, financial

¹⁰ Kroszner and Strahan (1999) argue that US state level deregulation of restrictions on bank branching and interstate banking (the instrument used by Jayaratne and Strahan (1996)) was influenced by small-bank financial health, and hence by successful lobbying. See also Strahan (2004).

¹¹ The process of legal change in Eastern European economies corroborates our exogeneity assumption. These countries started from very different initial conditions and exhibited a tendency to legal convergence that was primarily the result of technical assistance programs of international institutions and the harmonization requirements for countries wishing to join the European Union (Pistor (2000)). The state of flux in the political process in Eastern Europe and the multitude of parties affected by the changes in regulation complicated lobbying in a way that it makes arduous to posit and find a systematic link between firm performance and foreign bank regulation. In particular, the timing and speed of the changes (which is the variation that we exploit to identify the effects of foreign bank lending) suggest no such link. We observe no significant correlation in our sample between changes in regulation and the relative number of domestic and foreign banks—a proxy for the strength of opposing interest groups similar to the one used by Kroszner and Strahan (1999). We further regress our instrument on the share of employees in domestic banks (i.e., the number of employees in domestic banks divided by the total number of employees in both domestic and foreign banks), including the seven indices of reform, annual stock market returns, financial development, and country and year dummies. Again, in no instance does this additional proxy of the political clout of domestic banks help to explain foreign bank regulation.

development surprisingly appears to have a slightly negative effect on firm growth, particularly for small firms. However, the effect is small: an increase in financial development from 10 to 25% of GDP decreases sales growth by only 3%. Additionally, if we do not control for the proportion of foreign lending, financial development positively affects firm growth, as expected.

In interpreting this unexpected finding, we must keep in mind that our specifications include firm (or country) fixed effects. We thus identify only the impact of changes in total loans to GDP on firm growth. Our results then indicate that an increase in total loans (as we show later, particularly an increase of domestic loans to GDP) does not necessarily boost firm growth. Our findings suggest that the quality of finance matters more than the quantity. These results are consistent with Johnson et al. (2002), who find that availability of finance did not affect growth in the earlier transition period. Additionally, their results are consistent with the observations that, in emerging markets, lending booms often result in an accumulation of bad loans (Gourinchas et al. (2001)) and domestic banks frequently engage in connected lending. It is the entry of outsiders, and not the mere availability of funding that fosters growth.

As far as the control variables are concerned, the coefficient of *Stock Market Returns*, which captures business conditions, is positive and statistically significant, possibly indicating that stock markets predict future firm growth. *Foreign Direct Investment* is negatively related to domestic firm growth, possibly capturing the effects of foreign firm entry and competition. Finally, the *Herfindah–Hirschman Index* based on bank loans indicates that a higher concentration of bank loans increases growth.

5.2 FIRM FINANCING

To investigate the mechanism underlying the results reported so far, we study the impact of foreign bank lending on firm financing. In particular, our interpretation of the empirical evidence on firm growth would be corroborated if we observed that firms—particularly those that grow faster when foreign bank presence increases—make a greater use of debt if foreign banks expand lending. We first analyze growth in firm debt relative to total assets.

As expected (based on our previous results), we find that foreign bank presence increases access to credit—especially for young firms (Model 6). If foreign bank lending increases from 10 to 30%, newly created firms (younger than 3 months old) increase their financial debt relative to assets by more than 7%, while firms older than 18 years increase their financial loans by less than 6%.

In unreported regressions, we also assess how the maturity of the firm's liabilities is affected, but none of the relevant variables appears significant. Hence the widely held concern that foreign bank lending involves short-term "hot" money that is readily retracted during crises seems not entirely relevant here (Berger et al. (2005)).

The increase in financial debt is also accompanied by a substantial decrease in the cost of debt (Model 7). Firms whose growth is found to accelerate when foreign banks enter are those that appear to obtain a larger decrease in the cost of funds. An increase in foreign lending from 10 to 30%, for example, decreases the cost of debt by 2% for newly created firms (less than 3 months old), while it increases its cost for firms older than average.

Finally, in unreported regressions in which we instrument foreign lending as described above, the effect of the instrumented foreign lending variable remains statistically significant and economically highly relevant.

6. Financial Dependence

6.1 FIRM GROWTH

To further check whether the causal interpretation that we give to the previous estimates is warranted, we follow a methodology akin to that used by Rajan and Zingales (1998). Arguably, the effects of foreign bank presence should be larger for firms belonging to industries that rely more on bank loans. Hence if foreign bank presence indeed causes high firm growth, we should observe that firms in relatively more bank-dependent sectors benefit more from foreign bank lending, and also that large and younger firms in these sectors grow relatively faster.

Given our interest in the role that foreign banks play in firm financing, we measure bank dependence in a sector with the ratio of short-term loans and long-term debt to total liabilities.¹² We employ UK data, drawn from Amadeus, to ensure the exogeneity of our financial dependence proxy and to have a measure of the propensity to use bank loans in a financially developed country where financing constraints are less likely to be binding. We can thus test whether the impact of foreign bank lending is larger for firms in sectors that are more bank-dependent by including an interaction variable between the proxy for bank dependence and foreign lending. We subtract year-sector and year-country averages from all variables to control for sector- and country-specific time trends and correct all standard errors for clustering at the country-year level.

¹² Bertrand et al. (2006) use a similar measure of bank dependence.

Table IV. Financial dependence
Panel A. Percentage of foreign lending.

The panel reports the estimated coefficients and significance levels from ordinary least squares. The dependent variables are the growth rate of sales in Models 1 to 3 and 5 and the growth rate of assets in Model 4. Foreign lending is defined as the percentage of foreign lending. The definition of the other variables can be found in Table II. Year-sector and country averages are subtracted from all variables to take into account sector and country-specific trends. Robust standard errors that are corrected for clustering at the country-year level are reported in parentheses. *, **, and *** significant at 10 percent, 5 percent and 1 percent level, two-tailed.

Model	1	2	3	4	5
Foreign Lending is Divided by	Total Lending	Total Lending	Total Lending	Total Lending	Total Lending
Dependent Variable	$\Delta \ln(\text{Sales})$	$\Delta \ln(\text{Sales})$	$\Delta \ln(\text{Sales})$	$\Delta \ln(\text{Sales})$	$\Delta \ln(\text{Sales})$
Number of Observations	62,812	62,812	62,812	69,273	62,812
<i>Foreign Bank Presence</i>					
Foreign Lending $\times$ Financial Dependence	82.28*** (19.55)	57.90*** (19.70)	24.06* (13.58)	8.93 (10.14)	-3.77 (12.56)
Foreign Lending $\times$ $\ln(\text{Firm Employees}) \times$ Financial Dependence			8.26*** (1.84)	8.35*** (1.30)	7.51*** (1.85)
Foreign Lending $\times$ $\ln(\text{Firm Age}) \times$ Financial Dependence			-21.01*** (3.02)	-5.54** (2.28)	
Foreign Lending $\times$ Firm Largely Owned by Bank or State $\times$ Financial Dependence					-57.13* (29.25)
<i>Other Characteristics of the Institutional Environment</i>					
Financial Development $\times$ Financial Dependence		-0.66 (1.21)	-1.90*** (0.21)	-1.73*** (0.17)	-1.80*** (0.21)
Financial Development $\times$ $\ln(\text{Firm Employees})$ $\times$ Financial Dependence			9.52*** (0.60)	9.28*** (0.48)	8.23*** (0.58)
Financial Development $\times$ $\ln(\text{Firm Age}) \times$ Financial Dependence			-1.42*** (0.44)	-2.54*** (0.30)	
Financial Development $\times$ Firm Largely Owned by Bank or State $\times$ Financial Dependence					6.78 (5.04)

Table IV. (Continued)

Model	1	2	3	4	5
Foreign Lending is Divided by Total Lending Total Lending Total Lending Total Lending Total Lending					
Dependent Variable	$\Delta \ln(\text{Sales})$	$\Delta \ln(\text{Sales})$	$\Delta \ln(\text{Sales})$	$\Delta \ln(\text{Sales})$	$\Delta \ln(\text{Sales})$
Number of Observations	62,812	62,812	62,812	69,273	62,812
Creditor Rights $\times$ Financial Dependence		3.42* (1.89)	3.60*** (0.30)	4.15*** (0.23)	3.95*** (0.30)
Creditor Rights $\times$ $\ln(\text{Firm Employees}) \times$ Financial Dependence			-6.32*** (0.48)	-5.37*** (0.35)	-4.60*** (0.45)
Creditor Rights $\times$ $\ln(\text{Firm Age}) \times$ Financial Dependence			2.64*** (0.38)	2.32*** (0.25)	
Creditor Rights $\times$ Firm Largely Owned by Bank or State $\times$ Financial Dependence					-0.30 (4.45)
<i>Other Control Variables</i>					
$\ln(\text{Firm Employees})$	-8.64*** (0.95)	-8.70*** (0.94)	-9.01*** (0.32)	-8.61*** (0.25)	-9.29*** (0.32)
$\ln(\text{Firm Age})$	-7.05*** (1.54)	-7.24*** (1.56)	-8.08*** (0.53)	-4.77*** (0.37)	-7.21*** (0.27)
Firm Largely Owned by Bank or State	9.51*** (1.70)	9.56*** (1.66)	9.25*** (1.58)	3.98*** (1.21)	9.91*** (1.84)
Country and Sector Trend	Yes	Yes	Yes	Yes	Yes
R-squared	0.08	0.09	0.09	0.11	0.09

Table IV reports the firm-growth specifications. As in Table III, we first report a specification that includes foreign lending only, then add financial development and creditor rights to the regressors; and finally, we include interaction terms of all three variables with firm size and age. The results are similar to our earlier findings, both in statistical and economic significance (for an industry with average financial dependence the economic effects are similar to the ones reported in Table III Panel B). Large and particularly newly created firms in bank-dependent sectors prosper most.

In Model 5 we explore more directly the conjecture that firms that do not have connections and preferential access to domestic banks benefit more from foreign bank presence. As explained in Section 4, we define a firm as connected if it has the government or a domestic bank as shareholders or if it owns a block in a domestic bank. We find that although connected firms grow faster on average, they grow more slowly when foreign banks increase their presence. An increase in foreign lending from 20 to 50%, for example, reduces the wedge in growth between connected and nonconnected

Table IV. (Continued)

Panel B. Foreign lending relative to GDP

The panel reports the estimated coefficients and significance levels from ordinary least squares. The dependent variables are the growth rate of sales. Foreign lending is defined as the ratio of foreign lending to GDP. The definition of the other variables can be found in Table II. Year-sector and country averages are subtracted from all variables to take into account sector and country-specific trends. Robust standard errors that are corrected for clustering at the country-year level are reported in parentheses. *, **, and *** significant at 10 percent, 5 percent and 1 percent level, two-tailed.

Model	6	7
Foreign Lending is Divided by	GDP	GDP
Dependent Variable	$\Delta \ln(\text{Sales})$	$\Delta \ln(\text{Sales})$
Number of Observations	62,812	62,812
<i>Foreign Bank Presence</i>		
Foreign Lending $\times$ Financial Dependence	7.20** (3.07)	-0.66 (2.45)
Foreign Lending $\times$ $\ln(\text{Firm Employees}) \times$ Financial Dependence	0.90*** (0.18)	0.98*** (0.18)
Foreign Lending $\times$ $\ln(\text{Firm Age}) \times$ Financial Dependence	-2.17*** (0.74)	
Foreign Lending $\times$ Firm Largely Owned by Bank or State $\times$ Financial Dependence		-0.71 (7.05)
<i>Other Characteristics of the Institutional Environment</i>		
Private Financial Development $\times$ Financial Dependence	3.60** (1.81)	2.02 (1.38)
Private Financial Development $\times$ $\ln(\text{Firm Employees}) \times$ Financial Dependence	-0.44*** (0.09)	-0.50*** (0.09)
Private Financial Development $\times$ $\ln(\text{Firm Age}) \times$ Financial Dependence	-2.79*** (0.58)	
Private Financial Development $\times$ Firm Largely Owned by Bank or State $\times$ Financial		10.89** (5.50)
Public Financial Development $\times$ Financial Dependence	1.49*** (0.13)	0.78*** (0.10)
Public Financial Development $\times$ $\ln(\text{Firm Employees}) \times$ Financial Dependence	-0.07*** (0.01)	-0.07*** (0.01)
Public Financial Development $\times$ $\ln(\text{Firm Age}) \times$ Financial Dependence	-0.53*** (0.05)	
Public Financial Development $\times$ Firm Largely Owned by Bank or State $\times$ Financial		0.52 (0.59)
Creditor Rights $\times$ Financial Dependence	3.22*** (0.33)	4.17*** (0.33)
Creditor Rights $\times$ $\ln(\text{Firm Employees}) \times$ Financial Dependence	-1.61*** (0.37)	-0.64* (0.35)

Table IV. (Continued)

Model	6	7
Foreign Lending is Divided by	GDP	GDP
Dependent Variable	$\Delta \ln(\text{Sales})$	$\Delta \ln(\text{Sales})$
Number of Observations	62,812	62,812
Creditor Rights $\times$ $\ln(\text{Firm Age}) \times$ Financial Dependence	3.08*** (0.39)	
Creditor Rights $\times$ Firm Largely Owned by Bank or State $\times$ Financial Dependence		-7.92* (4.57)
<i>Other Control Variables</i>		
$\ln(\text{Firm Employees})$	-7.81*** (0.32)	-8.07*** (0.32)
$\ln(\text{Firm Age})$	-7.72*** (0.58)	-7.39*** (0.27)
Firm Largely Owned by Bank or State	9.37*** (1.58)	10.54*** (1.87)
Country and Sector Trend	Yes	Yes
R-squared	0.09	0.09

firms (in sectors with an average financial dependence) from 10 to 2%. We find a similar effect when we consider only government-owned connected firms (not reported).¹³ The coefficient is however not statistically significant, probably because the definition of connection becomes too restrictive in this case.

The estimates indicate that also creditor rights stimulate firm growth, especially of small and established businesses in bank-dependent sectors. In contrast, we find again the surprising result that financial development appears to slow growth. Like foreign lending, financial development stimulates the growth of large and young firms, even though it does not necessarily mitigate connected-lending problems.

The surprising result on the effect of financial development, and even more importantly the effect of foreign lending, may depend on the fact that we proxy foreign bank presence using the percentage of total loans extended by foreign banks. Hence, we do not capture the effects of changes in the quantity of foreign loans (but only the quality of loans). To overcome this potential problem, we drop the percentage of foreign loans and decompose financial development as follows: foreign loans to GDP (our new proxy for foreign bank presence), domestic loans from private banks to GDP and domestic loans from government-owned banks to GDP. Models 6 and 7 show that

¹³ The effect is statistically significant and basically identical to the one reported in Model 5 if we consider only bank ownership ties in the definition of connected firms.

these changes do not qualitatively affect our results on the effects of foreign lending. Foreign bank presence still spurs the growth of the largest companies with higher bank dependence to a larger extent. While the interaction of foreign lending with the connected firm dummy is no longer statistically significant, it appears that more loans from domestic banks benefit to a larger extent connected firms (Model 7). Additionally, in this specification we find that both financial development and creditor rights benefit to a larger extent firms with higher bank dependence. The positive effect of domestic loans, however, is smaller than the effect of foreign loans, confirming the conjecture that the quality of financial development matters more than its magnitude.

6.2 FIRM FINANCING

In Table V, we explore whether foreign bank presence is related to firms' use of external funds in a way that is consistent with the causal relation documented so far.

We find some evidence that firms increase the growth rate of their debt to assets, as foreign lending increases, but not necessarily if financial development deepens (Models 1 to 4). The evidence that larger or unconnected companies are able to increase their financial loans is weak. In Model I, foreign lending even appears to decrease access to financial loans for very large firms. This may be due to the fact that their assets increase to an even larger extent than the financial loans they obtain. However, younger firms do appear to use more bank loans, and the cost of debt of older firms seems to increase in response to foreign lending (Model 5).

Even more interestingly, while connected firms have more and cheaper access to funding, the presence of foreign banks increases their funding costs (Models 5 to 8). This suggests that related lending has a first-order effect on capital allocation, but foreign bank entry significantly mitigates this problem. An increase in foreign lending from 10 to 30%, for example, more than wipes out the connected firms' funding cost advantage in bank-dependent industries (with a financial dependence higher than the mean).

Our interpretation of the results is also supported by the analysis of firm's use of trade credit reported in Models 9 and 10. We expect that firms that benefit most from foreign bank entry in terms of growth and access to credit will make less use of trade credit. Consistently with our causal interpretation of the results, we find that larger (older) firms that are able to make greater (lower) use of bank loans when foreign bank presence increases indeed use less (more) trade credit.

Overall, this analysis of firm financing is broadly consistent with our previous finding that young firms benefit most from foreign bank lending. These companies are less likely than older companies to benefit from connected lending. That older firms born either before or during the transition period (possibly with the favors of politicians) do not fully benefit from foreign bank entry squares with the idea that foreign banks are able to mitigate problems of related lending. Additionally, the cost of debt of firms that we identify as connected increases with foreign lending.

6.3 THE ORIGIN OF FOREIGN BANKS

The role that foreign banks play may depend upon their country of origin. Foreign banks arriving from more remote countries with well-developed domestic financial sectors and high investor protection may be less encumbered by connected-lending problems and employ better lending technologies. At the same time, these foreign banks may be at a greater disadvantage in lending to small firms. We therefore add interactions of foreign lending with the percent of this lending originating in other Eastern European Economies in Table VI (Models 1 to 4). Origin of lending seemingly matters and (though the estimated coefficients are often economically relevant but not statistically significant) foreign banks from nearby Eastern European countries affect the sales growth and cost of debt of firms in bank-dependent sectors in a way that is more similar to domestic banks.

7. Robustness

We estimate a large number of other specifications that we do not tabulate for brevity. Here, we mention the most salient ones. Thus far, we have measured foreign bank presence with an indicator that captures its *intensity*. Similarly to Bekaert et al. (2005), we also analyze the effects of the *first sign* of foreign bank presence on firm growth and capital structure. The first sign can be measured using a dummy that equals one if at least one foreign bank entered the country. The results obtained with this variable are similar to those already reported, and document that the benefits of foreign bank lending are connected to the presence of foreign banks in the local economy, and not only to the magnitude of their lending.

Second, we address the issues related to the composition of our sample. Our results are invariant if we include only companies with more than 15 million Euros in assets, 30 million Euros in sales, and more than 200 employees. They are also invariant if we exclude the Republic of Macedonia, the Russian

Table V. Financial dependence: robustness
Panel A. Access to debt

The panel reports the estimated coefficients and significance levels from ordinary least squares. The dependent variables are the increase in financial debt relative to total assets. The definition of the variables can be found in Table II. Year-sector and country averages are subtracted from all variables to take into account sector and country-specific trends. Robust standard errors that are corrected for clustering at the country-year level are reported in parentheses. *, **, and *** significant at 10 percent, 5 percent and 1 percent level, two-tailed.

Model	1	2	3	4
Foreign Lending is Divided by	Total Lending	Total Lending	GDP	GDP
Dependent Variable	$\Delta \text{Debt}/\text{Assets}$	$\Delta \text{Debt}/\text{Assets}$	$\Delta \text{Debt}/\text{Assets}$	$\Delta \text{Debt}/\text{Assets}$
Number of Observations	50,320	50,320	50,320	50,320
<i>Foreign Bank Presence</i>				
Foreign Lending $\times$ Financial Dependence	19.15*** (6.36)	9.88 (14.40)	2.74** (1.37)	0.29 (1.24)
Foreign Lending $\times$ $\ln(\text{Firm Employees}) \times$ Financial Dependence	-2.18*** (0.84)	-2.11 (1.67)	0.13 (0.08)	0.17** (0.08)
Foreign Lending $\times$ $\ln(\text{Firm Age}) \times$ Financial Dependence	-3.51** (1.42)		-0.82*** (0.36)	
Foreign Lending $\times$ Firm Largely Owned by Bank or State $\times$ Financial Dependence		-13.96 (16.91)		0.84 (4.10)
<i>Other Characteristics of the Institutional Environment</i>				
Financial Development $\times$ Financial Dependence	-0.75*** (0.12)	-0.75 (0.87)		
Financial Development $\times$ $\ln(\text{Firm Employees}) \times$ Financial Dependence	2.46*** (0.34)	2.02** (0.97)		
Financial Development $\times$ $\ln(\text{Firm Age}) \times$ Financial Dependence	-0.83*** (0.24)			
Financial Development $\times$ Firm Largely Owned by Bank or State $\times$ Financial Dependence		5.70* (3.09)		
Private Financial Development $\times$ Financial Dependence			3.92*** (0.84)	2.54*** (0.68)
Private Financial Development $\times$ $\ln(\text{Firm Employees}) \times$ Financial Dependence			-0.22*** (0.05)	-0.24*** (0.05)

Table V. (Continued)

Model	1	2	3	4
Foreign Lending is Divided by	Total Lending	Total Lending	GDP	GDP
Dependent Variable	$\Delta \text{Debt}/\text{Assets}$	$\Delta \text{Debt}/\text{Assets}$	$\Delta \text{Debt}/\text{Assets}$	$\Delta \text{Debt}/\text{Assets}$
Number of Observations	50,320	50,320	50,320	50,320
Private Financial Development $\times \ln(\text{Firm Age}) \times \text{Financial Dependence}$			-1.47*** (0.29)	
Private Financial Development $\times \text{Firm Largely Owned by Bank or State} \times \text{Financial Dependence}$				9.03*** (2.49)
Public Financial Development $\times \text{Financial Dependence}$			0.14** (0.06)	-0.08* (0.04)
Public Financial Development $\times \ln(\text{Firm Employees}) \times \text{Financial Dependence}$			-0.01** (0.01)	-0.01** (0.01)
Public Financial Development $\times \ln(\text{Firm Age}) \times \text{Financial Dependence}$			-0.15*** (0.02)	
Public Financial Development $\times \text{Firm Largely Owned by Bank or State} \times \text{Financial Dependence}$				0.54 (0.48)
Creditor Rights $\times \text{Financial Dependence}$	1.86*** (0.12)	1.91*** (0.40)	1.66*** (0.12)	1.84*** (0.13)
Creditor Rights $\times \ln(\text{Firm Employees}) \times \text{Financial Dependence}$	-1.35*** (0.21)	-0.96 (0.70)	-0.45*** (0.16)	-0.28* (0.16)
Creditor Rights $\times \ln(\text{Firm Age}) \times \text{Financial Dependence}$	0.47*** (0.14)		0.47*** (0.14)	
Creditor Rights $\times \text{Firm Largely Owned by Bank or State} \times \text{Financial Dependence}$		-1.17 (3.21)		-5.12** (2.55)
Other Control Variables				
$\ln(\text{Firm Employees})$	-1.64*** (0.14)	-1.68*** (0.29)	-1.53*** (0.13)	-1.56*** (0.13)
$\ln(\text{Firm Age})$	-1.19*** (0.21)	-1.37*** (0.37)	-0.79*** (0.21)	-1.40*** (0.12)
Firm Largely Owned by Bank or State	1.73* (0.99)	1.47 (1.38)	1.48 (0.95)	1.33 (1.14)
Country and Sector Trend	Yes	Yes	Yes	Yes
R-squared	0.02	0.02	0.03	0.02

Table V. (Continued)
Panel B. Cost of funds

The panel reports the estimated coefficients and significance levels from ordinary least squares. The dependent variables are the logarithm of the ratio of interest expenses to debt in Models 5 to 8, and the ratio of trade credit to sales in Models 9 and 10. The definition of the variables can be found in Table II. Year-sector and country averages are subtracted from all variables to take into account sector and country-specific trends. Robust standard errors that are corrected for clustering at the country-year level are reported in parentheses. *, **, and *** significant at 10 percent, 5 percent and 1 percent level, two-tailed.

Model	5	6	7	8	9	10
Foreign Lending is Divided by	Total Lending	Total Lending	GDP	GDP	Total Lending	Total Lending
Dependent Variable	ln(Interest/Debt)	ln(Interest/Debt)	ln(Interest/Debt)	ln(Interest/Debt)	Trade/Sales	Trade/Sales
Number of Observations	45,060	45,060	45,060	45,060	48,717	48,717
<i>Foreign Bank Presence</i>						
Foreign Lending $\times$ Financial Dependence	-4.33 (3.88)	-4.27 (6.87)	1.19 (1.97)	0.99 (0.68)	-11.31 (36.35)	52.78 (34.85)
Foreign Lending $\times$ ln(Firm Employees) $\times$ Financial Dependence	0.65 (0.51)	0.87 (0.81)	-0.02 (0.11)	-0.19*** (0.06)	-13.30** (5.49)	-10.92** (5.37)
Foreign Lending $\times$ ln(Firm Age) $\times$ Financial Dependence	3.66*** (0.83)		-0.55 (0.39)		54.17*** (7.56)	
Foreign Lending $\times$ Firm Largely Owned by Bank or State $\times$ Financial Dependence		17.39** (8.08)		8.95** (3.57)		5.60 (61.14)
<i>Other Characteristics of the Institutional Environment</i>						
Financial Development $\times$ Financial Dependence	0.51*** (0.11)	0.50 (0.33)		0.68*** (0.13)	-7.67*** (0.65)	-7.85*** (0.65)
Financial Development $\times$ ln(Firm Employees) $\times$ Financial Dependence	-1.11*** (0.33)	-0.92** (0.39)		-0.95*** (0.32)	7.17*** (1.68)	9.88*** (1.64)
Financial Development $\times$ ln(Firm Age) $\times$ Financial Dependence	-0.28* (0.15)				2.20** (0.95)	

Table V. (Continued)

Model	5	6	7	8	9	10
Foreign Lending is Divided by	Total Lending	Total Lending	GDP	GDP	Total Lending	Total Lending
Dependent Variable	$\ln(\text{Interest/Debt})$	$\ln(\text{Interest/Debt})$	$\ln(\text{Interest/Debt})$	$\ln(\text{Interest/Debt})$	Trade/Sales	Trade/Sales
Number of Observations	45,060	45,060	45,060	45,060	48,717	48,717
Financial Development $\times$ Firm Largely Owned by Bank or State $\times$ Financial Dependence		0.11 (0.98)		-2.15* (1.26)		3.21 (5.02)
Private Financial Development $\times$ Financial Dependence			0.18 (1.58)			
Private Financial Development $\times$ $\ln(\text{Firm Employees}) \times$ Financial Dependence			0.10 (0.18)			
Private Financial Development $\times$ $\ln(\text{Firm Age}) \times$ Financial Dependence			0.05 (0.35)			
Private Financial Development $\times$ Firm Largely Owned by Bank or State $\times$ Financial Dependence						
Public Financial Development $\times$ Financial Dependence			-0.23* (0.11)			
Public Financial Development $\times$ $\ln(\text{Firm Employees}) \times$ Financial Dependence			0.00 (0.00)			
Public Financial Development $\times$ $\ln(\text{Firm Age}) \times$ Financial Dependence			0.13*** (0.03)			
Public Financial Development $\times$ Firm Largely Owned by Bank or State $\times$ Financial Dependence						
Creditor Rights $\times$ Financial Dependence	-1.44*** (0.12)	-1.56*** (0.39)	-1.29*** (0.41)	-1.56*** (0.12)	2.08*** (0.48)	1.20** (0.51)

Table V. (Continued)

Model	5	6	7	8	9	10
Foreign Lending is Divided by	Total Lending	Total Lending	GDP	GDP	Total Lending	Total Lending
Dependent Variable	ln(Interest/Debt)	ln(Interest/Debt)	ln(Interest/Debt)	ln(Interest/Debt)	Trade/Sales	Trade/Sales
Number of Observations	45,060	45,060	45,060	45,060	48,717	48,717
Creditor Rights $\times$ ln(Firm Employees) $\times$ Financial Dependence	1.78*** (0.24)	1.39*** (0.40)	1.39*** (0.32)	1.50*** (0.23)	0.95 (1.25)	-3.30*** (1.24)
Creditor Rights $\times$ ln(Firm Age) $\times$ Financial Dependence	-0.76*** (0.15)		-0.86*** (0.19)		-6.32*** (0.92)	
Creditor Rights $\times$ Firm Largely Owned by Bank or State $\times$ Financial Dependence		-1.08 (1.07)		0.21 (1.27)		-2.14 (6.62)
<i>Other Control Variables</i>						
ln(Firm Employees)	0.44*** (0.12)	0.51*** (0.16)	0.35* (0.20)	0.59*** (0.11)	0.93 (0.68)	1.84*** (0.66)
ln(Firm Age)	1.87*** (0.19)	1.08*** (0.25)	1.71*** (0.47)	1.07*** (0.09)	8.12*** (1.16)	5.70*** (0.61)
Firm Largely Owned by Bank or State	-0.99 (0.82)	-1.39* (0.82)	-0.83 (1.27)	-1.31 (0.92)	-3.89 (3.13)	-4.51 (3.80)
Country and Sector Trend	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.02	0.02	0.02	0.02	0.01	0.01

Table VI. Financial dependence: eastern european loans

The table reports the estimated coefficients and significance levels from ordinary least squares. The dependent variables are the growth rate of sales in Models 1 and 3, and the logarithm of the ratio of interest expenses to debt in Models 2 and 4. The definition of the variables can be found in Table II. Year-sector and country averages are subtracted from all variables to take into account sector and country-specific trends. Robust standard errors that are corrected for clustering at the country-year level are reported in parentheses. *, **, and *** significant at 10 percent, 5 percent and 1 percent level, two-tailed.

Model	1	2	3	4
Dependent Variable				
Number of Observations	$\Delta \ln(\text{Sales})$ 62,812	$\ln(\text{Interest/Debt})$ 45,060	$\Delta \ln(\text{Sales})$ 62,812	$\ln(\text{Interest/Debt})$ 45,060
<i>Foreign Bank Presence—All Foreign Banks</i>				
Foreign Lending $\times$ Financial Dependence	26.29 (42.81)	-0.77 (7.43)	-1.67 (35.99)	0.28 (7.47)
Foreign Lending $\times$ $\ln(\text{Firm Employees}) \times$ Financial Dependence	8.03 (5.47)	0.27 (0.89)	7.97 (5.90)	0.27 (0.92)
Foreign Lending $\times$ $\ln(\text{Firm Age}) \times$ Financial Dependence	-21.10** (9.55)	4.65*** (1.67)		
Foreign Lending $\times$ Firm Largely Owned by Bank or State $\times$ Financial Dependence			-55.90** (21.79)	15.95* (8.09)
<i>Foreign Bank Presence—Eastern European Banks</i>				
Foreign Lending $\times$ Eastern European Loans $\times$ Financial Dependence	-11.69 (172.27)	88.94*** (27.86)	93.22 (143.92)	99.95*** (24.87)
Foreign Lending $\times$ Eastern European Loans $\times$ $\ln(\text{Firm Employees}) \times$ Financial Dependence	-1.32 (14.03)	-2.53 (2.04)	-6.79 (13.50)	0.06 (2.21)
Foreign Lending $\times$ Eastern European Loans $\times$ $\ln(\text{Firm Age}) \times$ Financial Dependence	74.05 (55.37)	14.18 (26.56)		
Foreign Lending $\times$ Eastern European Loans $\times$ Firm Largely Owned by Bank or State $\times$ Financial Dependence			-180.98** (69.18)	-126.22*** (38.57)
<i>Other Characteristics of the Institutional Environment</i>				
Financial Development $\times$ Financial Dependence	-1.89 (1.22)	0.42 (0.33)	-1.89 (1.23)	0.39 (0.33)

Table VI. (Continued)

Model	1	2	3	4
Dependent Variable				
Number of Observations	$\Delta \ln(\text{Sales})$ 62,812	$\ln(\text{Interest/Debt})$ 45,060	$\Delta \ln(\text{Sales})$ 62,812	$\ln(\text{Interest/Debt})$ 45,060
Financial Development $\times \ln(\text{Firm Employees}) \times \text{Financial Dependence}$	9.59*** (1.00)	-0.86** (0.39)	8.60*** (1.40)	-0.79** (0.38)
Financial Development $\times \ln(\text{Firm Age}) \times \text{Financial Dependence}$	-1.38 (1.51)	-0.34 (0.25)		
Financial Development $\times \text{Firm Largely Owned by Bank or State} \times \text{Financial Dependence}$			6.61** (2.86)	0.18 (0.97)
Creditor Rights $\times \text{Financial Dependence}$	3.53* (2.11)	-1.37*** (0.31)	3.99** (1.95)	-1.45*** (0.34)
Creditor Rights $\times \ln(\text{Firm Employees}) \times \text{Financial Dependence}$	-6.40*** (1.01)	1.56*** (0.38)	-4.64*** (1.31)	1.06** (0.43)
Creditor Rights $\times \ln(\text{Firm Age}) \times \text{Financial Dependence}$	2.61* (1.34)	-0.78*** (0.17)		
Creditor Rights $\times \text{Firm Largely Owned by Bank or State} \times \text{Financial Dependence}$			-0.30 (3.01)	-0.90 (1.12)
Other Control Variables				
$\ln(\text{Firm Employees})$	-8.97*** (0.89)	0.61*** (0.17)	-9.20*** (0.85)	0.70*** (0.19)
$\ln(\text{Firm Age})$	-8.14*** (1.66)	1.85*** (0.30)	-7.20*** (1.56)	1.10*** (0.25)
Firm Largely Owned by Bank or State	9.07*** (1.70)	-1.10 (0.73)	10.51*** (2.00)	-1.09 (0.80)
Country and Sector Trend	Yes	Yes	Yes	Yes
R-squared	0.09	0.02	0.09	0.02

Federation and Ukraine. Because these countries have experienced a great deal of political turmoil and lag relatively behind in the process of reform, for them it more difficult to control for institutional changes that are concomitant with changes in foreign bank presence.

Third, we examine separately listed and unlisted companies. The results are invariant if we exclude the 2,036 listed companies present in our sample. When we look at the effects of foreign lending on listed companies only, we still find a positive effect of foreign lending. All listed companies, however, seem to benefit similarly from foreign entry. This is consistent with our interpretation of the results, as all listed companies are large, visible and well established. They are therefore unlikely to be neglected by foreign banks or completely spurned by domestic banks, irrespective of their political connections or lack thereof.

Fourth, we explore to which extent the firms that benefit most from foreign bank presence are foreign-owned. We find no different effect of foreign lending on domestic- and foreign-owned firms, probably due to the fact that very few firms are foreign-owned in our sample.

Finally, the results on the effects of foreign bank lending are qualitatively unaltered if instead of using firm fixed effects we use random effects in Table III (if anything, our results have higher statistical significance) or if we do not include the interaction terms of financial development and the index of creditor rights with the proxies for size, age and connections.

8. Conclusion

This paper analyzes how and to which extent foreign bank lending can benefit firms, and particularly small and young ones. Banks represent an important source of capital for small and young firms, but these may not fully benefit from foreign bank entry. Foreign banks may lack the local information that is particularly important for lending in countries where asymmetric information problems are severe and legal enforcement is weak. Additionally, foreign banks are often large organizations themselves that are reluctant or unable to effectively use soft information, often the only information available on small and young firms or potential entrepreneurs.

Using a large dataset of listed and unlisted companies in Eastern European economies, we find that foreign lending stimulates growth in firm sales, assets, and use of financial debt, but that the effect is dampened for small firms. Hence, lack of local knowledge may remain a handicap. Additionally, we find that connected firms benefit least from foreign bank entry, while young firms benefit most. On the other hand, domestic financial development surprisingly often

depresses firm access to credit and performance, in particular for small and young firms, and benefits firms connected to local banks or the government. This confirms that foreign banks are more willing to base their economic choices on purely economic motives and thereby mitigate connected-lending problems.

While the impact and mechanism we identify in this paper are robust and economically important, one should be careful in generalizing to other contexts, since the impact of foreign bank presence on economic performance may have been particularly large in the case of the Eastern European economies. At the time of foreign bank entry, the banking systems of these economies were largely underdeveloped and local banks lacked expertise in allocating loans. Therefore, the destruction of soft information due to acquisitions of domestic banks by foreign banks is likely to have been minimal. Arguably, the differential impact of foreign bank presence on large- and small firms may be greater in countries where the acquired banks had a longer experience in extending credit to local firms.

Several other interesting questions remain unanswered. For example, do the mode of entry, the organizational form and the ownership structure of the foreign banks matter for the magnitude of the impact on the small-firm sector? Will the effect of foreign bank presence on small-firm growth and financing ultimately abate as technological development and deeper economic and financial integration proceed? Finally, do foreign banks benefit firms only directly through their own lending, or rather also via efficiency spillovers on domestic banks? We leave these questions for future research.

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