

Are Banks Engines of Export?

Financial Structures and Export Dynamics

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Abstract

This paper studies the impact of financial structures on the dynamics of the export sector using rich data from over 60 countries. The results reveal that bank-oriented financial systems boost the size of the export sector more than market-oriented financial systems. However, especially in middle- and low-income countries, this effect mostly stems from banks slowing down exporters' exit rather than

promoting firms' entry into export. The reduced exit from the export sector appears to reflect domestic banks' tendency to evergreen loans to exporters ("soft budget constraint") more than banks' buffering role in difficult times. Foreign banks mitigate this effect and enhance the dynamism of the export sector.

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1 Introduction

The linkages between the financial sector and the export sector have attracted growing attention in recent years. Firms' export can be particularly influenced by financial development. To become exporters, firms must devote resources to identify export markets, tailor their products to match foreign tastes and regulations, and set up distribution networks (Baldwin and Krugman 1989; Dixit 1989). Most of these export costs have to be paid up front so that firms that aim at starting an export activity need enough liquidity at hand (Manova, 2013). Firms must also sustain relevant expenses after starting an export activity. Expanding sales from a single foreign market to multiple markets or even scaling up the volume of exports within a foreign market may require substantial liquidity (Eaton et al., 2008; Chaney, 2016).

Thus far, most studies have treated the financial sector and the export sector as “monolithic entities”, focusing on the impact of financial development on the overall size of the export sector. A broad literature, however, documents significant cross-country heterogeneity in the structure of financial systems: countries differ in the importance of concentrated financial institutions (e.g., banks) relative to decentralized financial markets (e.g., stock markets) and in the composition of the banking sector, such as the relative importance of domestic and foreign banks (see Allen and Gale, 2001; Levine, 1990, and references therein). These differences in financial structures may not necessarily reverberate in the total volume of liquidity flowing to the business sector, but primarily in the allocation of liquidity across businesses, including the incentives of financiers to support entrant or incumbent firms and to shut down funding to incumbent enterprises (Allen and Gale, 2001; Beck, Levine and Loayza, 2000).

While these observations are compelling, we know little about the impact of financial structures on export activities, and even less so about their impact on the dynamics of the export sector (entry into, and exit from, export). The goal of this paper is to help fill this gap. To this end, we exploit rich data on the structure of financial systems from the Global Financial Development Database (GFDD) as well as detailed, disaggregated information on the dynamics of the export sector from the World Bank Exporter Dynamics Database (EDD). Our data refer to a panel of 62 countries, across all geographic regions and income levels, for the 1997-2014 period. The EDD database contains detailed information at the level of 2-digit ISIC industries on the number of exporting firms and on exporters' entry, exit and turnover rates drawn from exporter-level customs data which cover the universe of annual exporter transactions. Further, we are able to construct various indicators of the concentration of the export sector. On the financial side, we capture financial structures through widely used indicators of the importance of banks relative to financial (stock and

bond) markets and of the composition of the banking sector (domestic versus foreign banks). We further supplement our main databases with a variety of other sources of information on the regulation, supervision and auditing of banks (e.g., the World Bank Banking Supervision Survey), the reliance of industries on external financing, the occurrence of financial, banking or external crises, and the degree of informational and contractual complexity of export products.

To identify the causal impact of financial structures on export dynamics, we employ the difference-in-difference approach originally proposed by Rajan and Zingales (1998) and adopted by Manova (2012) to isolate the impact of financial factors on firms' export. In particular, we test whether the impact of financial structures on firms' export dynamics is stronger in industries in which firms are more dependent on external finance for technological reasons purely related to the production process.

The baseline results reveal that banks promote the expansion of the export sector, especially the number of exporters, better than decentralized financial markets (stock and bond markets), and this is true even after controlling for the overall size of the financial sector. This finding is consistent with the view that, through continuous monitoring and tight credit relationships, banks can garner better quality information on potential exporters than dispersed investors (Diamond, 1984; Paravisini et al., 2016). However, when we turn to break down this effect into the impact on exporters' entry and exit, we find that the main driver of the positive impact of bank-oriented financial systems on total export is a significant reduction in the exit rate of exporters. By contrast, banks do not appear to promote entry into export more than capital markets. We next investigate whether the detected effects of banks are attributable to domestic or foreign banks. We uncover evidence that it is especially domestic banks that reduce the exit rate of exporters. In fact, a stronger foreign bank penetration in the banking system boosts exporters' entry, exit and turnover rates.¹ These results hold for the whole sample of 62 countries and they become economically stronger when we focus on middle- and low-income countries.

As noted by a broad literature in banking (see, e.g., Allen and Gale, 2001), banks' tendency to keep firms afloat and slow down firm exit could be a symptom of efficient or inefficient behavior. Banks could have a soft budget constraint attitude of the kind initially stressed by Dewatripont and Maskin (1995) and then studied by a sizeable literature on credit markets, especially for developing countries (Mian, 2006). That is, they could roll over financing even to underperforming exporters once they have funded the relevant up-front fixed costs that export activities entail. An alternative interpretation is that banks could have a longer-term attitude, that is be able to renegotiate credit contracts with exporters

¹This result is fully robust to including a measure of banking sector concentration (controlling for the fact that foreign banks tend to be larger than domestic ones, especially in middle- and low-income countries).

following unexpected contingencies and thus bail out efficient exporters that experience financial difficulties (Huberman and Kahn, 1988). While differentiating these two channels is notoriously hard, in the second part of the paper we try to gain intuition into the mechanisms that drive the baseline results.

In a first set of tests, we build on the prediction of the banking literature that banks' soft budget constraints are more severe in institutional settings in which banks are more susceptible to the pressure of external parties (e.g., the government) to rollover credit to businesses, and less subject to independent monitoring of bank auditors and supervisors on their decisions to grant such rollover. Matching information from our main databases with data from the World Bank Banking Supervision Survey, we obtain that in countries where banks are less independent from the pressures of external parties and where bank managers are subject to less rigorous scrutiny of bank auditors and supervisors that prevent the release of misleading information, domestic banks reduce the dynamism of the export sector relative to stock market investors and to foreign banks (i.e., they reduce exporters' entry, exit and turnover, in line with the soft budget constraint hypothesis).

In a second set of tests, we exploit the prediction of the banking literature that, to the extent that banks' behavior instead reflects long-termism, this benefit should manifest itself especially following negative shocks (e.g., crises or recessions) or in settings where *ex ante* it is harder to write detailed contracts that can account for unexpected shocks. However, we uncover no evidence that domestic banks moderate the exit of exporters more during recessions or financial crises than in tranquil times. Moreover, the differential effect of foreign banks is no more pronounced for products characterized by higher informational opacity or contractual complexity (measured according to the methodologies in Rauch, 1999, and Nunn, 2007). Overall these findings cast doubts on the benign interpretation that domestic banks are a buffer against the realization of unforeseen shocks over the course of export projects, while they tend to support the alternative hypothesis that domestic banks indulge in a soft budget constraint behavior in the export sector. The presence of foreign banks would help mitigate this effect of bank-oriented financial systems and complement decentralized stock markets in enhancing the dynamism of the export sector.

In the last part of the paper, we investigate the implications of the baseline findings for the concentration of the export sector. Relative to capital markets, banks turn out to reduce the concentration of the export sector. As highlighted by Eaton et al. (2008), especially in developing countries, the export sector features a continuous entry and exit of producers, the majority of which however experiment with selling small amounts in foreign markets. Jointly, the results for export dynamics and for export concentration suggest that domestic banks might slow down the selection and exit of small exporters, contributing to

a reduced concentration of the export sector.²

The remainder of the paper unfolds as follows. In Section 2, we relate the paper to prior studies. Section 3 describes the data and the empirical methodology. In Section 4 we present the baseline results, while in Section 5 we focus on dissecting the mechanisms behind the results. Section 6 carries out additional tests and robustness checks. Section 7 concludes. Additional details on the data and empirical results are relegated to the online Supplement.

2 Prior Literature

This paper relates to a growing literature on finance and trade. Theoretical studies stress that export is particularly vulnerable to financial imperfections (see, e.g., Manova, 2013; Chaney, 2016). Several works confirm empirically a nexus between financial conditions and firms' internationalization. Greenaway et al. (2007) uncover a link between firms' financial health and their participation in export markets, while Minetti and Zhu (2011) and Manova et al. (2015) provide firm-level evidence that financial imperfections hinder international trade.³ More recently, some studies have looked at the role of banks in firms' export. Using data from Peruvian firms, Paravisini et al. (2015) find that a contraction of bank funding reduces export. Minetti and Zhu (2011) document that the duration of the credit relationship with the main bank does not affect the probability of exporting. De Bonis et al. (2015) suggest that the length of firm-bank relationships enhances the probability of foreign direct investments but not that of exports. Our paper also relates to a recent literature on the impact of financial and institutional factors on firm export dynamics. For example, Fernandes et al. (2016) study the role of overall financial development in exporters' behavior and dynamics. Araujo et al. (2016) find evidence of a role of contract enforcement and export experience in shaping firm dynamics in foreign markets.

The role that banks play in export activities relative to other segments of the financial system remains relatively unexplored. And, perhaps because of the dearth of data, there is even scarcer evidence about the impact of financial structures on the dynamics of exporters (entry, exit, turnover) and on the structure of the export sector. Yet, a well-known result in the finance literature is that often the most pronounced differences in the effects of financial structures do not regard the overall availability of funding but the incentives of financiers to promote business entry and to foreclose or refuse credit renewal to firms. These different

²Interestingly, we uncover evidence that what matters for exporters' concentration is the importance of banks relative to the stock market, while the concentration of the banking sector has little influence.

³Minetti et al. (2018) investigate the effect of financial constraints on firms' participation in domestic and international supply chains.

incentives also reverberate into the structure of the corporate sector. Allen and Gale (2001) maintain that bank-based financial systems may be more efficient at financing long-term investment projects that require long-term financing.⁴ This is due to banks' ability to renegotiate contracts following the realization of unforeseen contingencies. On the other hand, Dewatripont and Maskin (1995) contend that decentralized financial systems characterized by strong capital markets may be less inclined to roll over financing to inefficient businesses.

Banks' tendency to evergreen loans is perceived to be particularly acute for some types of banks, such as domestic banks in developing countries. Several studies underscore that foreign banks may partially offset this bias of domestic banks. Similar to dispersed capital market investors, foreign banks establish looser personal relationships with domestic entrepreneurs, so they have less incentives to roll over loans (Mian, 2006). In fact, they typically have a more hierarchical structure than domestic banks, with the top management sitting in a foreign country. By contrast, domestic banks, especially government-controlled ones, have poor cash-flows incentives and are more susceptible to the pressure of domestic governments to keep businesses afloat. Moreover, foreign banks can increase the quality of banking services and promote competition (Levine, 2004; Dobson, 2008) and can facilitate trade by helping firms overcome information asymmetries (Classens et al., 2017).

3 Data and Measurement

In this section, we provide details on the empirical methodology, data sources and measurement of the variables used in the empirical analysis.

3.1 Data sources and empirical strategy

Our data on exporters' size, distribution and dynamics aggregated at the industry level are drawn from the World Bank Exporter Dynamics Database (EDD). The data cover 62 countries across all geographic regions for the 1997-2014 period. While countries of all income levels are included, the bulk of the sample consists of middle- and low-income countries.⁵ The database contains a large number of measures spanning from the number of exporting firms, to the entry and exit rates of firms into export, to the concentration of the export sector (e.g., the share of exports of the top 5% exporters). The measures in the

⁴Banks can rely on relationship lending and collect qualitative information via personal interactions between loan officers and firm managers and access to detailed documents of the firms (Berger and Udell, 2006).

⁵The data have a good coverage for middle- and low-income countries while information for advanced economies is more porous. For a more detailed description of the data, please refer to Fernandes et al. (2015) and <http://microdata.worldbank.org/index.php/catalog/2545>.

EDD are constructed using exporter-level customs data, which cover the universe of annual exporter transactions.

Information on financial structures, including the importance of the banking sector relative to the stock market and the importance of foreign banks relative to domestic banks, is obtained primarily from the Global Financial Development Database (GFDD).⁶ We complement the GFDD with data from Burger et al. (2015) and Yibin et al. (2013) on the importance of bank credit relative to bond market capitalization. Further, we draw relevant information from a variety of other databases and sources, including the analyses in Maskus et al. (2012) and Klapper et al. (2006) to construct industry-level measures of external financial dependence, the World Bank Banking Supervision Survey on the supervision, monitoring, and regulatory restrictions on banks, the database in Laeven and Valencia (2013) on the occurrence of financial, banking, and external crises, and the analyses in Nunn (2007) and Rauch (1999) to obtain measures of contractual and information complexity of products. We provide further details on measurement and data sources below.

To identify the effect of financial structures on export dynamics, we rely on the established strategy proposed by Rajan and Zingales (1998) which exploits heterogeneous financial dependence across industries based on technological factors inherent to the production process. Specifically, in the baseline tests for each outcome we estimate the following regression:

$$Export_{ist} = \beta_1 FinStruct_{it} \times ExtFin_s + \beta_2 FinDev_{it} \times ExtFin_s + D_{it} + D_{st} + \varepsilon_{ist} \quad (1)$$

where i is country, s is ISIC 2-digit industry and t is year. $Export_{ist}$ are variables from the Exporter Dynamics Database that capture the size, dynamics and concentration of the export sector at the country-industry-year level, and $FinStruct_{it}$ is the measure of financial structure, capturing the relative importance of banks vis-à-vis capital markets or the relative importance of foreign banks vis-à-vis domestic banks. $ExtFin$ measures the industry's external financial dependence. $FinDev_{it}$ is a measure of financial development while D_{it} and D_{st} are country-year and industry-year fixed effects, respectively. Country-year fixed effects capture time-varying country characteristics, including endowment differences that can drive trade patterns and country-specific macroeconomic shocks that may affect domestic production and firm exports. In turn, the industry-year fixed effects absorb shocks to industries that are common across countries, including world demand or supply shocks for specific industries. Finally, ε_{ist} denotes the error term which captures some unobserved factors that may affect export activities, but that we expect to be uncorrelated with the explanatory variables in (1).

⁶We use the June 2017 version of the database. For an overview of the data please refer to the 2013 Global Financial Development Report and Cihák et al. (2012).

3.2 Measures of export dynamics and financial structures

We are interested in the size and dynamics of the export sector. Among the measures for the size of the export sector, we consider the number of exporters (number of firms exporting in a given country-industry-year) and the average export sales per exporter. The dynamics of the export sector is captured by firms' entry rate into export, firms' exit rate from export, and the turnover rate of exporters. Firm entry rate into export is equal to the number of firms exporting in a given country-industry-year that were not exporting in the previous year over the number of exporters; firm exit rate equals the number of firms not exporting in a given country-industry-year that were exporting in the previous year over the number of exporters; the turnover rate is the sum of the entry and exit rates. In additional tests, we also consider measures of concentration of the export sector, namely the share of exports of the top 5% of exporters and the Herfindahl-Hirschman index of export sales.

We capture financial structures by considering measures of the relative importance of banks vis-à-vis capital markets, and, within the banking sector, measures of the relative importance of domestic versus foreign banks. In the former set, we focus on the ratio of credit granted by banks to the private sector over the sum of stock market capitalization and bank credit, but also experiment with the ratio of bank credit over the sum of bond market capitalization and bank credit (for bond markets data are sparser than for stock markets). In the latter set, we focus on the share of foreign bank assets among total bank assets in the country.

As in prior studies, we use total credit granted by all financial institutions relative to the GDP to control for the financial development of a country and to account for the overall size of the financial institutions sector. Further, when studying the role of foreign banks, we control for the degree of competition in the banking sector using an index of banking sector concentration (the Herfindahl-Hirschman index of bank assets in the country).

The identification strategy relies on the approach originally proposed by Rajan and Zingales (1998), which exploits exogenous variation in the financial dependence of industries due to the technological features of production processes. As pointed out by Rajan and Zingales (1998), what matters is the ranking of the financial dependence of the industries. This ranking can be expected to largely reflect technological features, while financial dependence does not vary substantially across firms within an industry. The measure of industry-level degree of external financial dependence is constructed using data from Maskus et al. (2012) and Klapper et al. (2006).⁷ Similar to Rajan and Zingales (1998), external financial dependence is defined as the median of the ratio of capital expenditures minus cash flow from operations divided by capital expenditures across U.S. firms in a given industry over the

⁷Industries are defined at the 2-digit level in ISIC Rev.3.

1990-1999 period using Compustat data. There are two main reasons for opting for the data in Maskus et al. (2012) instead of the data from Rajan and Zingales (1998). First, the data are more recent and provide a better proxy of external financial dependence for the period for which we have data on exporter-level dynamics. Second, the data are reported in the same classification available for the EDD, ISIC Rev.3, which limits the measurement errors that may be exacerbated when converting the measure from one classification to another using aggregated data.

3.3 Other variables

When trying to disentangle the mechanisms of influence of financial structures on export, we use data from the World Bank Banking Supervision Survey on the supervision, monitoring and regulation of banks in the countries. The database is based on surveys sent to national bank regulatory and supervisory authorities of 107 countries asking comprehensive questions about bank entry requirements, ownership restrictions, capital requirements, accounting and disclosure requirements, and the quality and actions of bank supervisory personnel. We detail these data and variables below.

We also employ measures of the degree of product information complexity and contractual complexity. Data on the degree of relationship-specific fixed costs or information frictions in contracts are from Nunn (2007) and Rauch (1999). Specifically, as in Nunn (2007), for each product the contract intensity index is equal to the proportion of its intermediate inputs that are relationship-specific and is defined as

$$z_g = \sum_j \theta_{gj} R_j^{neither} \quad (2)$$

where θ_{gj} is the share of input j used to produce one unit of product g based on the 1997 U.S. input-output tables. $R_j^{neither}$ is the share of inputs that is neither sold on an organized exchange nor reference priced.⁸ The proxy for industry information complexity is constructed using data from Rauch (1999). First, we convert Rauch’s original classification of products from SITC Rev.2 to ISIC Rev.3. Second, we aggregate the data to the 2-digit ISIC level by calculating the share of SITC products that are neither sold on an organized exchange nor reference priced (i.e., heterogeneous products). An industry with a higher share of heterogeneous products is more likely to be subject to informational frictions.

In the analysis, we further test whether the impact of financial structures on export differs between normal and difficult times, such as recessions and financial crises. Data

⁸We concord the original data to ISIC Rev. 3 by converting BEA’s 1997 I-O industry classification to NAICS 1997, then the NAICS 1997 to NAICS 2002, and finally NAICS 2002 to the 2-digit ISIC Rev.2 industry level. For a more detailed description of the original data, please refer to Nunn (2007).

on the occurrence of financial crises are from Laeven and Valencia (2013). We also identify recessionary periods based on Braun and Larrain (2005) as in Abiad et al. (2011). Specifically, we identify recessions using real annual GDP data from the World Bank World Development Indicators (WDI) for the 1995-2015 period. First, we extract the trend in the logarithm of real GDP using a Hodrick-Prescott filter with parameter 6.25. Second, we identify recessions whenever the detrended series exceeds one country-specific standard deviation below zero. Third, we identify the start of a recession as the year following the peak until the trough.

3.4 Descriptive statistics

Table 1 reports descriptive statistics for the main variables used in the empirical analysis, at the country-year level for financial variables and at the country-industry-year level for export variables (see Supplementary Table S1 for summary statistics for the individual countries); in Figure 1, we display the relationship among key variables. There is substantial variation in financial structures across countries. Looking at the relative importance of banks versus stock markets, the ratio of bank credit over the sum of stock market capitalization and bank credit equals 43% at the 25th percentile and 75% at the 75th percentile. To grasp the magnitude of these figures it is useful to observe that for Germany, an advanced country in our sample with a developed stock market but with a traditionally bank-oriented financial system, the ratio equals about 71%. Croatia, a Balkan country that features a relatively well-developed stock market, has a ratio of about 56%, and, further down in the scale, Mexico has a ratio of approximately 38%. Outside our sample, in 2000, the United States, a country often taken as an example of highly market-oriented financial system, the ratio approximately equaled 24%. Corporate bond markets tend to be smaller than stock markets, and in fact in our sample at the 25th percentile the ratio of bank credit to the sum of bond market capitalization and bank credit equals 76%. In our sample, there is also substantial variation in foreign bank participation. The share of bank assets held by foreign banks ranges from as low as 0% for the Islamic Republic of Iran or 7% for Thailand to as high as 82% for El Salvador or 90% for Croatia.

On the export side, the average number of exporters in an ISIC 2-digit industry ranges from a few dozen for countries such as Cambodia and Paraguay to about 3,000 for Spain and Turkey and 8,000 for Germany. The data for the mean value of export sales also exhibit pronounced cross-country variation. While not reported in the table, our data also reveal that the mean values tend to be substantially higher than the median values of export per exporter, suggesting that exporters tend to be concentrated in the segments of mid-sized and large businesses, while the incidence of export is significantly lower for small

firms.⁹ Bernard et al. (2007) indeed show that U.S. exporters are significantly larger than nonexporters, by approximately 97 percent for employment and 108 percent for shipments. Verhoogen (2008) reports that on average Mexican exporters are twice as large as their non-exporting counterparts in terms of employment, revenues, and domestic sales. Bustos (2011) documents that on average in Argentina continuing exporters are substantially larger than nonexporters, by approximately 150 percent for employment and 177 percent for domestic sales. Data from the Enterprise Surveys of the World Bank Group further confirm this observation especially for middle- and low-income countries: for example, in 2013 in Bulgaria export represented 4.5% of sales for small (5-19 employees) and medium-sized (20-99 employees) firms and 32% for large firms (>100 employees); and in Peru it accounted for 0.7% of sales for small firms, 4.1% for medium-sized firms, and 16.1% for large firms.

Prior literature documents that net entry rates into export mask a substantial turnover of exporters, and especially so in middle- and low-income countries, the bulk of our sample. Eaton et al. (2008) find that, in a typical year, about half of all Colombian exporters were not exporters in the previous year. Volpe Martincus and Carballo (2009) confirm similar large exit, entry and turnover rates of exporters for Peru. In line with this finding of the literature, in our sample the mean entry rate into export roughly equals 58% while the mean exit rate from export equals 57%. There is significant variation in the entry and exit rates of exporters. As shown in Figure 1, Panel C, countries with very similar net entry rates into export exhibit very different export sector dynamism, as captured by the degree of turnover of exporters. And Supplementary Table S1 reveals that the interquartile range for the share of exports of the 5% largest exporters exceeds 20%, signaling quite a diverse degree of concentration of the export sector across countries.

4 Baseline Results

In this section, we investigate the impact of financial structures on export dynamics. In Section 5, we examine possible mechanisms that can drive this impact.

In Table 2, we study the estimates of equation (1) for the impact of financial structures on export dynamics by using measures of the relative importance of banks versus capital markets in the economy and measures of the relative importance of foreign banks within the banking sector of the country. Specifically, we consider the ratio of credit granted by banks over the sum of stock market capitalization and bank credit, the share of total bank assets accounted for by foreign banks, and the ratio of bank credit over the sum of bond market capitalization and bank credit. In all the regressions, we control for a measure of the overall financial development of the country, the ratio of total credit in the economy over GDP.

⁹See also Fernandes et al. (2016).

Further, we include country-year fixed effects as well as industry-year fixed effects. As noted, the identification strategy consists of testing whether the impact of the financial structure on the export measures varies according to the degree of external financial dependence of the industry that is due to technological factors. The estimates in Panel A refer to all the countries in the sample, while those in Panel B are obtained by dropping high-income countries.¹⁰

The estimates in Panel A, columns 1-2, suggest that countries with a stronger importance of banks relative to capital markets feature a larger export sector. In particular, they are characterized by a larger number of exporters, although not necessarily larger average export sales per exporter. To gauge the magnitude of the estimate on bank credit relative to stock market capitalization, we look at the Pulp, Paper and Paper Products industry, which is at the 25th percentile of external financial dependence ($ExtFin_s$), and the Furniture industry, which is at the 75th percentile of $ExtFin_s$. The estimated coefficient of 0.376 suggests that the difference in the log number of exporters between the Paper industry and the Furniture industry in the country at the 75th percentile of the bank to stock market ratio, is 3 percentage points higher than the difference in the log number of exporters between the same industries in the country at the 25th percentile of the ratio.¹¹ Since the mean difference in the log number of exporters between the Paper industry and the Furniture industry is 22.3 percentage points, this estimate suggests that the effect of the ratio of bank credit to stock market capitalization on the number of exporters accounts for about 13.8% of the mean difference.

However, when we turn to examine the impact of the financial structure separately for the entry and exit margins of exporters, the results indicate that a more bank-oriented financial system does not promote the expansion of the export sector by stimulating entry into export but rather by reducing the exit rate of exporters (columns 3-4). In fact, the exit rate of exporters is negatively affected by the importance of banks relative to the stock market, while the relative importance of banks does not appear to have a significant impact on the entry rate of exporters. The estimated coefficient of -0.056 in column 4 implies that the difference in the exit rate between the Paper industry and the Furniture industry in the country at the 75th percentile of the bank to stock market ratio is 0.5 percentage points lower than the difference in the exit rate between the same industries in the country at the 25th percentile of the ratio. Given that in our sample the mean difference in the

¹⁰These high-income countries include Denmark, Germany, Norway, and Portugal.

¹¹From Table 1, the 25th and 75th percentiles of $ExtFin_s$ are 0.123 and 0.376, respectively. The 25th and 75th percentiles of bank credits (relative to stock) are 43% and 75%, respectively. Thus, the implied increase in the ln number of exporters between the Paper industry and the Furniture industry if bank credits are increased from the 25th to the 75th percentile of the distribution would be $0.376*(0.376 - 0.123)*(75 - 43) = 3.09$.

exit rate between the Paper industry and the Furniture industry is 7.5 percentage points, our estimate suggests that having relatively stronger banks can in fact reduce the exit rate of exporters relatively more in industries with a higher degree of dependence on external finance.¹²

In Panel A of Table 2, we also study the impact of the relative importance of foreign banks, to ascertain whether the results are driven by domestic or foreign banks. A stronger presence of foreign banks stimulates the dynamism of the export sector (columns 8-10). In particular, both the entry and the exit rate of exporters are positively affected by the ratio of foreign bank assets to total bank assets and, as a result, the turnover in the export sector is also positively influenced. A computation analogous to that performed above suggests that the presence of foreign banks accounts for about 8-9% of the mean difference in the entry rate, exit rate, and turnover rate of exporters in our sample. The reader could suspect that this impact of foreign banks reflects a larger size of foreign banks relative to domestic banks. However, the result is fully robust to inserting a control for the degree of concentration of the banking sector, which suggests that it is the foreign or domestic nature of banks, rather than their size, that matters. Overall, the results suggest that the reduced exit from the export sector is primarily driven by domestic banks.

The estimates are similar when high-income countries are excluded – see Panel B. In fact, the negative effect on export dynamics of bank credit to stock market capitalization turns out to be even stronger (columns 3-5 in panel B). The estimate in column 4 implies that the difference in exporters’ exit rate between the Paper industry and the Furniture industry in the country at the 75th percentile of the bank to stock market ratio is 0.6 percentage points lower than the difference in the exit rate between the same industries in the country at the 25th percentile of the ratio. If one includes advanced countries this figure equals 0.5 percentage points, as noted above.¹³

The results in Table 2 are consistent with the hypothesis that, relative to dispersed investors in capital markets, banks take a longer-term stance when financing export activities. This behavior is especially driven by domestic banks, while foreign banks’ attitude is more similar to that of dispersed investors in capital markets. The tendency of bank-oriented financial systems to keep exporters afloat and moderate their exit could be a symptom of either efficient or inefficient behavior (Allen and Gale, 2001). Banks’ vested interests in

¹²As for the impact of the measure of overall financial development, this is in line with previous findings that stronger financial development promotes the expansion of the export sector.

¹³Interestingly, the estimates obtained when dropping high-income countries also suggest that for middle- and low-income countries the bank to stock market ratio also reduces exporters’ entry rate, though the negative impact on exporters’ exit rate is significantly stronger. This further supports the conclusion that the relative importance of foreign banks does not promote the expansion of the export sector by stimulating entry but rather by reducing exit.

exporters could imply a “soft budget constraint” (SBC) attitude of the kind stressed by Dewatripont and Maskin (1995) and then studied by a sizeable literature on credit markets, especially in developing countries. According to Dewatripont and Maskin (1995), soft budget constraints in credit markets arise predominantly for activities featuring large up-front fixed costs: once a bank has financed the initial costs, those are sunk, so the bank is inclined to roll over financing even to an underperforming exporter. Put differently, the information initially accumulated by banks and the resulting vested interests that banks have in exporters’ activities could distort banks’ decision on whether to cut credit to exporters. Capital markets suffer less from this soft budget constraint attitude because dispersed investors cannot coordinate on renewing funding to an underperforming exporter (dispersed stockholders will rush to abandon the exporter). As noted, export is an activity that features large up-front fixed costs (Manova 2013; Melitz, 2003), so that it can be naturally exposed to banks’ soft budget constraint attitude. Further, soft budget constraint problems for export could be further accentuated in middle- and low-income countries where domestic banks are often subject to government pressure, through government ownership and government-appointed managers or through the presence of ad hoc development banks. For example, in the development stage of the Republic of Korea during the 1980s and 1990s, South Korean banks were allegedly under government pressure to protect the export sector, by rolling over loans even to underperforming exporters (Dornbush and Park, 1987). Foreign banks have less vested interests and are typically less entrenched than domestic banks in middle- and low-income countries (Mian, 2006; Detragiache, Tressel and Gupta, 2008). Therefore, they are reputed to be “tougher” lenders than domestic banks and to suffer less from the SBC attitude.

The discussion above highlights the interpretation of the lower exit rate of exporters in bank-oriented systems as a symptom of an SBC problem. As stressed by Allen and Gale (2001), an alternative, more benign view is that banks can be better able to renegotiate credit contracts in the event of unforeseen contingencies that are not initially specified in the contracts. In other words, banks could exhibit long-termism and be more willing to wait for export activities to bear fruits, rather than shut down financing prematurely. Indeed, export takes time to yield fruits and the initial investments could require some time to be recouped, more so than in the case of domestic activities.¹⁴ Dispersed capital market investors and foreign banks can instead exhibit an excessive short-termism, have poorer understanding of exporters’ conditions and be inclined to shut down credit too early.

¹⁴This might be particularly true for some industries, where export require longer gestation, and for some modes of entry of exporters (e.g., export platforms might require time).

5 Mechanisms

In this section we aim at gaining further insights into the mechanisms that drive the baseline results, with an emphasis on disentangling banks' soft budget constraints from their long-termism. The literature predicts that the occurrence of soft budget constraint problems in the banking sector is related to the degree of independence of banks from the influence of the government and of related parties and to the quality of monitoring and supervision of banks. Exploiting this prediction, in Section 5.1 we take a step towards disentangling a possible role of soft budget constraints by supplementing information from our main databases with country-level data on the independence, monitoring and supervisory quality of banks.

As for the more benign explanation of the baseline findings (banks buffer exporters from unforeseen shocks), banks' ability to renegotiate contracts and insulate firms from unforeseen contingencies should especially kick in when *ex ante* it is hard to gather information about shocks that can hit export projects and when it is difficult to write detailed contracts that account for such unexpected contingencies (Allen and Gale, 2001). Based on these arguments, we conjecture that if the baseline results especially reflect domestic banks' buffering and long-termism (rather than soft budget constraints) the effects should be stronger in the event of negative shocks, such as crises or recessions. We test this hypothesis in Section 5.2. Moreover, we would expect the effects to be relatively stronger for products that are informationally more complex and for which detailed, state-contingent contracts are harder to write. We test this hypothesis in Section 5.3.

5.1 Banks' soft budget constraints

As it is typically the case in the empirical literature, a direct test of soft budget constraints is not feasible. However, following the banking literature, we can capture the exposure of countries to a bank soft budget constraint problem by exploiting information on banks' independence and on the regulation and monitoring to which banks are subject. Banks' soft budget constraint attitudes can be more pronounced in settings where banks are less independent in their loan-granting decisions and more susceptible to the influence of external parties such as the government, which could put pressure on banks to rollover loans to exporters (Allen and Gale, 2001). Soft budget constraint problems may also be more severe in countries in which bank managers are less subject to close supervisory scrutiny on their decisions, implying more freedom of bank managers to evergreen loans to borrowers (Arestis, de Paula and de Paula, 2008; Lardy, 1998). Bank managers may indeed have the incentive to conceal the status of loan portfolios by evergreening loans (Niinimaki, 2007).

To perform the tests of this section, we integrate the data sources used in the baseline analysis with data from the World Bank Banking Supervision Survey, which collects

thorough information of the supervision, monitoring, and regulatory restrictions on banks. We focus on questions in the survey that directly speak to soft budget constraint issues: the degree of banks' independence from external pressures and the quality of the monitoring and sanctioning of bank managers. Based on the afore-mentioned predictions of prior literature, we expect that, if to a non-trivial extent the baseline results reflect banks' soft budget constraints, the reduction in exporters' exit and turnover rates should be stronger in countries where bank managers are less easily monitored and sanctioned by bank auditors and supervisors, and they are less independent from external pressures. Specifically, the augmented empirical model reads:

$$\begin{aligned}
Export_{ist} = & \beta_1 FinStruct_{it} \times ExtFin_s + \beta_2 FinStruct_{it} \times ExtFin_s \times BankRegul_i \\
& + \beta_3 ExtFin_s \times BankRegul_i + \beta_4 FinDev_{it} \times ExtFin_s \\
& + \beta_5 FinDev_{it} \times ExtFin_s \times BankRegul_i + D_{it} + D_{st} + \varepsilon_{ist}
\end{aligned} \tag{3}$$

where $BankRegul_i$ denotes the measure of independence or supervision of banks in country i and the other terms have the same meaning as in the baseline empirical model in equation (1).

The results are gathered in Table 3. In Panel A, we use an indicator for the exposure of banks to external pressures: a dummy that takes the value of one if "related parties" can own capital in banks (where related parties are "entities or persons linked via collective or common ownership, financial linkages or interdependency, or generally whereby one party significantly influences the other such that one of the parties is less able to pursue its own independent interest."). We find that, compared to countries where banks are less exposed to the pressure of external parties, in countries where banks are susceptible to such pressure (i.e., more exposed to SBC problems), more bank credits, relative to stock market size, lead to lower exit and turnover of exporters (row 2, columns 4-5).¹⁵ By contrast, the presence of foreign banks may help promote exporters' entry, exit and turnover in those countries (row 2, columns 8-10), suggesting that foreign banks help circumvent the soft budget constraint of domestic banks.

To proxy for the quality of auditing and monitoring of bank managers, we construct a dummy variable that takes the value of one if bank auditors are required to directly communicate their audits to the supervisory agency.¹⁶ The estimates in Panel B suggest that in countries with looser auditing and monitoring of bank managers (i.e., with more SBC

¹⁵In those countries where banks are independent from the pressure of external parties, a more bank-oriented financial system also contributes to smaller size of exporters (row 1, column 2), suggesting entry of younger and smaller firms into the export market.

¹⁶Interestingly, in untabulated tests we find that the role of foreign banks in promoting exporters' turnover is stronger when supervisory guidelines apply uniformly to all banking institutions, including foreign banks.

problems) a more bank-oriented financial system leads to a lower turnover of exporters (row 3, column 5).¹⁷ In Panel C, we experiment with a measure of the stringency of sanctioning of banks' behavior, an indicator that takes the value of one if bank directors are legally liable when the information they disclose is erroneous or misleading. We obtain that in countries where bank managers are not subject to adequate sanctions in case of misleading information on banks' accounts (i.e., with possibly more severe SBC problems), more bank credits, relative to stock market capitalization, lead to lower turnover of exporters (row 5, column 5). In Panel D, we obtain even stronger results when we exclude high-income countries from the sample, which is consistent with the widely held view that soft budget constraints especially plague banks' behavior in middle- and low-income countries, due to stronger interference of governments or lower quality of regulation and supervision.¹⁸

Altogether, the results in Table 3 suggest that in countries where banks are less independent from the pressure of external parties (Panel A), where bank managers are subject to looser scrutiny of bank auditors and supervisors (Panel B) and to weaker sanctioning in case of misleading information on banks' accounts and decisions (Panel C), domestic banks can reduce the dynamism (turnover) of the export sector, in line with the SBC hypothesis. Consistently across regressions, the estimates thus point to soft budget constraint attitudes in domestic banks' behavior.

5.2 Banks' long-termism: Buffering exporters from shocks

In the previous section, we tried to disentangle the presence of soft budget constraint issues. The tests of this section and of the next intend to get evidence on the possible role of banks' long-termism. To the extent that the baseline results reflect banks' ability to buffer exporters from negative shocks by renegotiating contracts, we would expect this buffering effect to be stronger during crises and recessions. To probe this point, in Tables 4a-4b we differentiate the effects of financial structures between tranquil times and contractions. Exploiting information on episodes of financial crises in Laeven and Valencia (2013), we first code a dummy variable equal to one if during the year the country was hit by a financial crisis, zero otherwise. In Table 4a, we then augment our regressions by adding the interaction term between the financial crisis dummy and the industry-level measure of external financial dependence and the triple interaction between the financial crisis dummy, the industry-level measure of external financial dependence, and the financial structure indicator (the ratio of

¹⁷We find less compelling evidence on the impact of foreign banks in countries where supervisors' monitoring is less stringent.

¹⁸In untabulated results, we also considered alternative proxies for the stringency of sanctioning and accounting standards, such as the requirement for supervisors to make public formal enforcement actions and to operate on an early intervention framework.

banks to stock market or the share of bank assets held by foreign banks). In Table 4b, we repeat this exercise using a dummy for recessions instead of a dummy for financial crises. The recession dummy is constructed by adopting the methodology in Braun and Larrain (2005) and in Abiad et al. (2011), as detailed in Section 3.3.

Consistently across the regressions in Tables 4a-4b, we do not estimate significant coefficients on the triple interactions for exporters' entry, exit, or turnover rate, regardless of whether the financial crisis dummy or the recession dummy is used in the interaction. Thus, we do not detect a differentially stronger (or weaker) effect of financial structures on export dynamics in times of economic difficulties. The only exception regards the role of foreign banks in promoting entry into the export sector. This positive effect on exporters' entry appears to be diluted during crises, which is in line with the frequent observation that during financial crises foreign banks exhibit instability in their credit flows and are inclined to curtail credit. A second interesting point is that during difficult times, the domestic banking sector appears to promote some resilience on the intensive margin of export, while not affecting the extensive margin (exporters' entry, exit and turnover). In fact, we estimate a positive effect of the indicators for bank relevance on the average export sales per exporter. To summarize, the estimates in Tables 4a-4b suggest that the baseline results of Table 1 reflect long-run structural mechanisms rather than short-term buffering effects during financial crises or recessions.

Finally, untabulated coefficients on the interaction between the financial crisis dummy and the financial dependence of the industry reveal that financial crises and recessions have an overall negative effect on export especially in industries with higher external financial dependence. This is in line with prior findings that exporters are disproportionately vulnerable to tight financial conditions during downturns (Chor and Manova, 2012; Cerutti and Claessens, 2016).¹⁹

5.3 Banks' long-termism: Buffering exporters amid incomplete contracts

An alternative way to detect a possible role of domestic banks in buffering exporters from unforeseen contingencies is to investigate whether the baseline results are stronger in settings in which it is more difficult to write contracts that are contingent on unexpected shocks (due to lack of information of banks or inherent informational complexity of products). To this end, in Table 5a we study whether the effects of the financial structure are stronger in contexts where information about products is scarcer and where contracts are harder

¹⁹Chor and Manova (2012) document a negative impact of financial constraints on export during the recent financial crisis. Studying 179 episodes of financial crises, Abiad et al. (2014) find evidence that financial constraints matter in the collapse of trade. Cerutti and Claessens (2016) detect a relationship between bilateral trade links and lender-borrower characteristics in the great cross-border bank deleveraging.

to specify. To conserve space, we concentrate on the impact of the relative importance of foreign banks in the banking sector (see Supplementary Tables S2a and S2b for the bank over stock market ratio). We adopt two approaches. In Panel A, we exploit information on the quality of information available to banks by considering country-level indicators for the credit bureau coverage of businesses in the country (demeaned by the sample average).²⁰ In Panel B, we exploit information on the informational complexity of products. To measure informational complexity, we use the indicator constructed by Rauch (1999) which distinguishes among three product categories: differentiated products (the most informationally complex), reference price goods (intermediate category), and homogeneous products (the simplest goods). We further supplement this information with country-level indicators for the quality of rule of law and for the strength of legal rights.

The results in Panel A suggest that the relative share of foreign banks does not have a different impact depending on the availability of information on businesses, as measured by the credit bureau coverage in the country (see the coefficient on the triple interaction in row 2). In particular, we uncover no evidence that the positive impact of foreign banks on export turnover is significantly different for countries with a wider credit bureau coverage. At the same time, we continue to detect a significantly positive effect of foreign banks on exporters' turnover (column 5, row 1). Consistent with this result, in Panel B we do not find evidence that the impact of foreign banks on exporters' turnover is significantly different for products characterized by higher informational complexity (see column 5, row 3). This is true also when, as in Panel C, column 5, we interact the Rauch indicator with a measure of the strength of legal rights in the country. Overall, these results suggest that the impact of foreign banks is not different in informationally more difficult settings.

In Table 5b, we explore whether the impact of financial structures depends on the ease with which contracts can be written and enforced. In column 5, we obtain some evidence that for products with higher contractual complexity and relationship specificity (as measured by the indicator in Nunn, 2007) foreign banks actually reduce exporters' turnover, thus working more similarly to domestic banks than for products with simpler contracts (column 5, row 1). This is the opposite of what we would expect if domestic banks had an advantage over foreign ones in dealing with contractually complex products. However, this effect does not vary across countries with different degree of rule of law or strength of legal rights.²¹

²⁰Private credit bureau coverage is the number of individuals or firms listed by a private credit bureau with current information on repayment history, unpaid debts, or credit outstanding, expressed as a percentage of the adult population.

²¹Consistent with previous literature, we find that countries with better rule of law or stronger legal rights tend to have a larger number of exporters and bigger export sales on average.

6 Extensions and Robustness

We carry out several extensions and robustness tests of our main findings. In Section 6.1, we explore the implications of the baseline results for the concentration of the export sector. In Section 6.2, we perform various robustness checks.

6.1 Implications for export sector concentration

The detected impact of financial structures on exporters' dynamics can have far-reaching consequences for the structure of the export sector. In Table 6, we examine the effect of the financial structure on the export sector concentration. We uncover evidence that a relatively stronger banking sector within the financial system leads to a less concentrated export sector: both the Herfindahl index for exporters and the share of exports accounted for by the top 5% of exporters are negatively affected by the relative importance of banks vis-à-vis stock markets. Performing a computation analogous to that used in Section 4, our coefficient estimate of -0.129 in column 1 suggests that the ratio bank credit to stock market accounts for about 17% of the mean difference in the Herfindahl index of export sales in our sample. Similarly, column 2 implies that the bank over stock market ratio accounts for about 11% of the mean difference in the share of top 5% exporters in our sample. Interestingly, we also find that the share of bank assets accounted for by foreign banks reduces the degree of concentration of the export sector.

These results are interesting in light of the findings for the exit and turnover of exporters. One might surmise that if the financial system stiffens the exit of exporters, this could allow incumbent exporters to grow more. However, an opposite view is that a financial system that stiffens exporters' exit dilutes the competitive pressure on incumbent exporters, reduces the selection of exporters and allows many small exporters to merely survive, rather than few successful exporters to expand. If banks were efficient long-term investors, we would expect efficient exporters to eventually take off and grow in size. If instead banks are mostly SBC investors, they may maintain afloat many small exporters, which however never get selected, so that it is hard for the most efficient exporters to take off and grow. To get additional intuition on this point, in columns 3-6 of Table 6 we consider the impact of financial structures on the second year survival of exporters. In column 3 of Panels A and B, the signs of the estimated coefficients are consistent with the argument that, unlike stock market investors and foreign banks, domestic banks tend to increase the probability of second year survival, although the coefficients are estimated imprecisely. Further, the estimates in column 4, Panel B, indicate that foreign banks promote a more stringent selection of new, small exporters. Overall, the results in Table 6 suggest that domestic banks may slow down the selection and exit of small exporters, contributing to a reduced

concentration of the export sector. This explanation is also akin to that advanced by Klapper, Laeven and Rajan (2006) for firms’ dwarfism in countries like Italy. Overall, our findings for the effect of financial structures on export concentration may then offer more support to the SBC hypothesis than to the banks’ long-termism hypothesis.

6.2 Further robustness tests

In Table 7, we carry out several robustness checks for our baseline results. In Panel A, we experiment with instrumenting the relative presence of foreign banks with the indicator of “banking sector entry barriers” constructed by Abiad et al. (2008). This indicator is an inverse measure of the extent to which the country imposes entry restrictions in the domestic banking market, especially on foreign banks: it takes values from 0 to 3, with 0 representing the highest barriers and 3 the lowest.²² We lag this indicator by five years to allow for delays in the impact of the entry regulation on the operations of foreign banks in the country. The first-stage estimates show that bank entry regulation significantly affects the relative presence of foreign banks (as expected, lower entry barriers imply larger presence of foreign banks). The second-stage estimates confirm the baseline results: foreign banks appear to promote entry into, and exit from, the export sector, boosting the turnover of exporters.

In Panel B of Table 7, we experiment by considering alternative indicators of institutional quality of the country in the analysis of the mechanisms of influence. We use credit registry coverage of adults as an alternative measure of the information available to banks. Similar to the results in Table 5a, Panel A, adding this control for the quality of information has no impact on the coefficients on the interaction of external finance dependence with the relative importance of foreign banks.

Further, we interact a measure of government effectiveness with the indicator of information complexity in Panel C, and with the indicator of contractual complexity in Panel D. These estimates are qualitatively similar to the results in Panels B and C of Table 5a and Table 5b.

7 Conclusion

Using rich data from over 60 countries, this paper has investigated how financial structures affect the dynamics and concentration of the export sector. While confirming prior findings that financial and banking development can boost the expansion of the export sector, the

²²As noted by Abiad et al. (2008), entry barriers can take the form of outright restrictions on the participation of foreign banks; restrictions on the scope of banks’ activities; restrictions on the geographic area where banks can operate; or excessively restrictive licensing requirements.

results offer a nuanced perspective on the impact on export dynamics: domestic banks appear to promote the expansion of export especially by reducing the exit rate of exporters, rather than promoting the entry of new businesses into export activities. That is, their boost to the size of the export sector comes hand in hand with a reduction in the dynamism of the export sector. This is not necessarily a symptom of inefficient behavior, as banks might perform a buffering role for exporters vis-à-vis unforeseen contingencies. However, more worryingly, we find that in none of the circumstances in which the buffering role of banks would be more valuable, their chilling effect on exporters' exit is more pronounced. By contrast, this effect is stronger in countries characterized by lower independence of bank managers from external pressures and poorer bank supervisory quality. These results are mostly attributable to domestic banks in middle- and low-income countries, while the presence of foreign banks is conducive to a significantly higher dynamism of the export sector.

The paper can yield relevant policy insights. The first regards the structure of the financial system: complementing domestic banking development with the development of capital markets and with the openness of the banking system to foreign financial institutions can have first-order effects on the dynamism of firms' international activities. The second implication regards the importance of complementing banking development with an improvement of the incentives of bank managers that mitigates their inclination to protect incumbent exporters. These two types of financial reforms could reinforce each other, as they both would tend to reduce distortions in the allocation of financial resources in the export sector.

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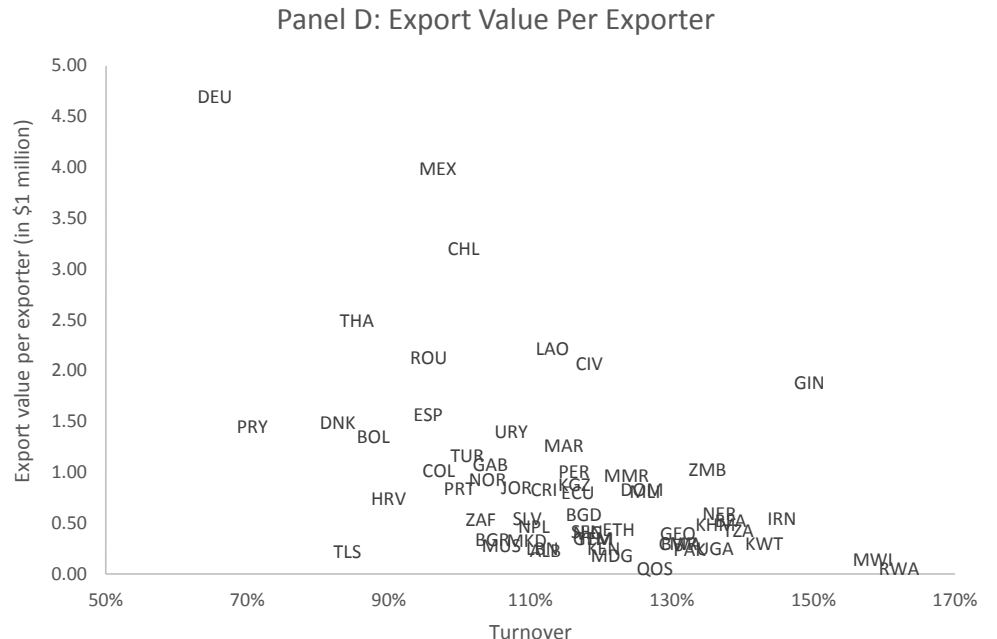
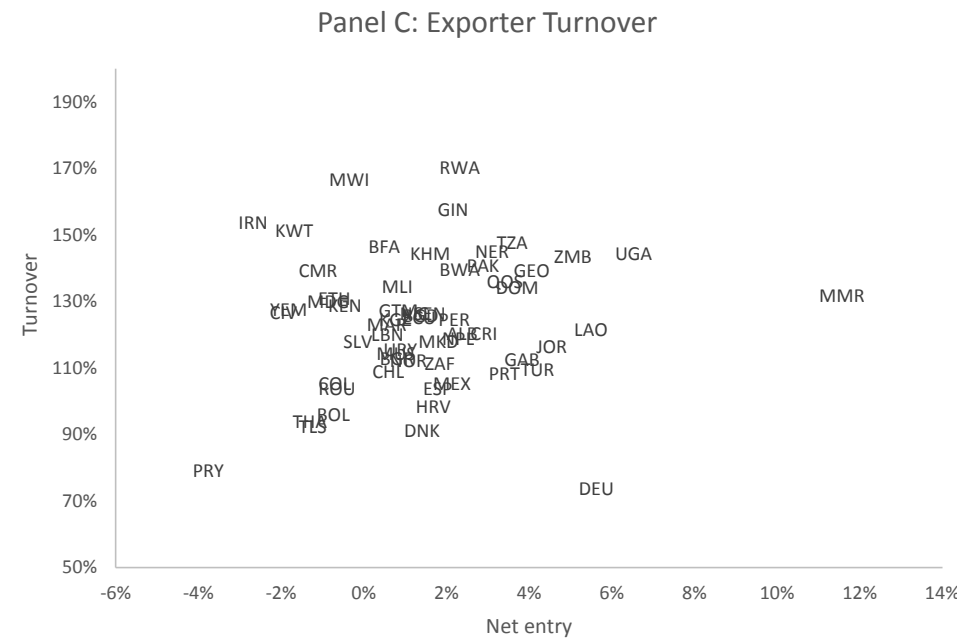
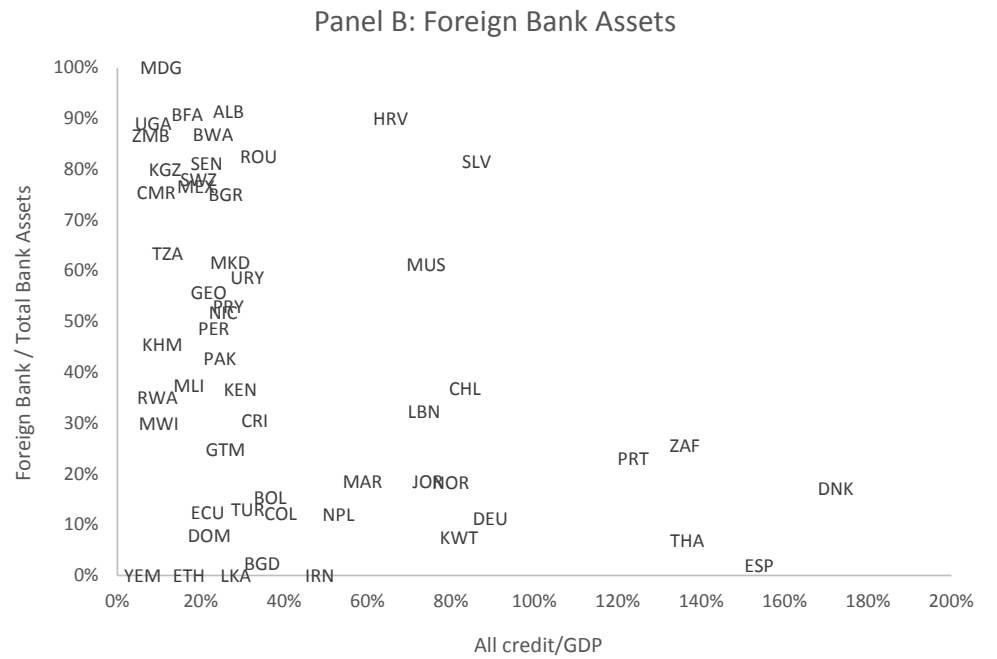
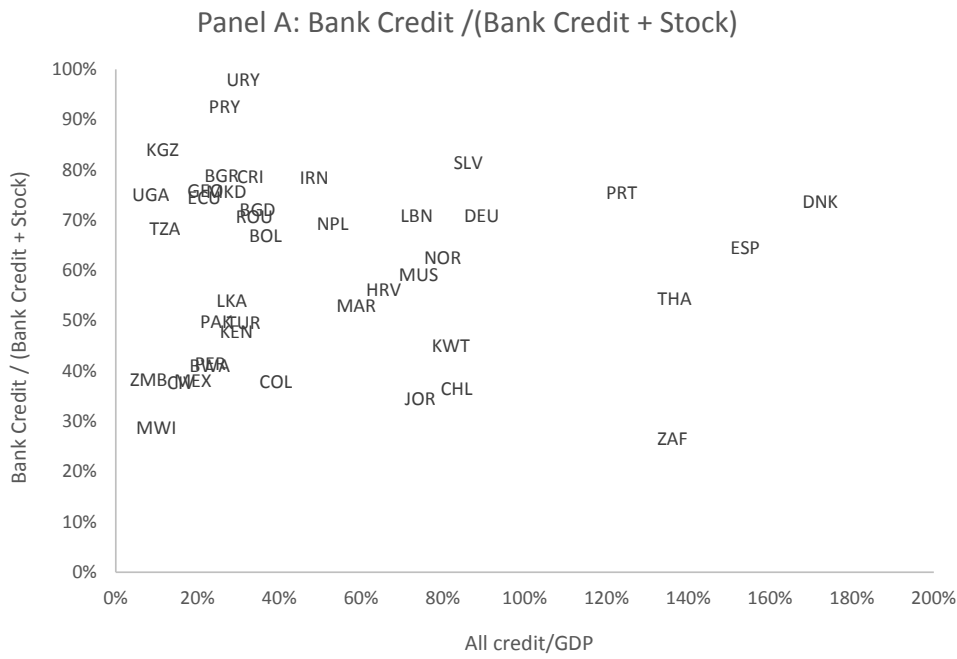


Figure 1. Key Variables

Note: This figure displays the key variables used in the analysis. Detailed summary statistics for individual countries are reported in Supplementary Table S1. See Section 3 for more details on the data and measurement.

Table 1. Summary Statistics

	Observations	Mean	50th percentile	25th percentile	75th percentile
	(1)	(2)	(3)	(4)	(5)
<i>Financial Structures</i>					
Bank Credit / (Bank Credit + Stock)	18,366	0.60	0.61	0.43	0.75
Foreign Bank / Total Bank Assets	19,387	0.44	0.37	0.16	0.71
Bank Credit / (Bank Credit + Bond)	16,708	0.87	0.97	0.76	1.00
<i>Other Financial Variables</i>					
All Credit / GDP	26,795	43.91	26.26	16.58	61.16
Bank concentration	26,601	0.70	0.69	0.57	0.83
<i>Export Size, Dynamics, Concentration</i>					
Log of Number of Exporters	27,625	4.34	4.28	2.94	5.83
Log of Export Value per Exporter	26,764	11.68	11.73	10.29	13.14
Exporters' Entry Rate	23,795	0.59	0.57	0.47	0.70
Exporters' Exit Rate	23,706	0.57	0.55	0.46	0.67
Exporters' Turnover Rate	23,420	1.14	1.12	0.93	1.34
Herfindahl-Hirschman Index	26,764	0.30	0.21	0.09	0.43
Share of top 5% Exporters	20,464	0.73	0.78	0.59	0.89

Note: This table reports summary statistics for the main variables used in the analysis. Detailed summary statistics for individual countries are reported in Supplementary Table S1. See Section 3 for more details on the data and measurement.

Table 2. Financial Structures and Export Dynamics

	Log of # of Exporters	Log of Export Value per Exporter	Exporter Entry Rate	Exporter Exit Rate	Exporter Turnover Rate	Log of # of Exporters	Log of Export Value per Exporter	Exporter Entry Rate	Exporter Exit Rate	Exporter Turnover Rate	Log of # of Exporters	Log of Export Value per Exporter	Exporter Entry Rate	Exporter Exit Rate	Exporter Turnover Rate
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
<i>Panel A: All countries</i>															
(Bank Credit / (Bank Credit + Stock))*ExtFin	0.376*** (0.114)	-0.248 (0.243)	-0.036 (0.022)	-0.056** (0.025)	-0.061 (0.040)										
(Foreign Bank / Total Bank Assets)*ExtFin						-0.160 (0.104)	-0.636*** (0.192)	0.037** (0.018)	0.049*** (0.019)	0.094*** (0.032)					
Bank Concentration*ExtFin						0.179 (0.185)	-0.349 (0.362)	0.010 (0.034)	0.041 (0.038)	0.016 (0.065)					
(Bank Credit / (Bank Credit + Bond))*ExtFin											1.287*** (0.141)	-1.920*** (0.446)	-0.025 (0.034)	-0.013 (0.034)	-0.031 (0.057)
(All Credit / GDP)*ExtFin	0.091*** (0.033)	0.320*** (0.088)	0.002 (0.008)	0.005 (0.009)	0.006 (0.015)	-0.045 (0.055)	0.205* (0.110)	0.010 (0.011)	0.014 (0.012)	0.034 (0.021)	0.141*** (0.040)	0.188 (0.125)	-0.004 (0.011)	-0.001 (0.011)	-0.001 (0.019)
Observations	17,870	17,561	15,685	15,639	15,548	17,653	17,233	15,919	15,904	15,766	15,094	14,669	12,870	12,813	12,689
R-squared	0.882	0.550	0.528	0.498	0.551	0.876	0.542	0.467	0.459	0.502	0.899	0.569	0.488	0.450	0.500
<i>Panel B: Excluding high-income countries</i>															
(Bank Credit / (Bank Credit + Stock))*ExtFin	0.461*** (0.125)	-0.338 (0.293)	-0.053** (0.024)	-0.078*** (0.028)	-0.085* (0.044)										
(Foreign Bank / Total Bank Assets)*ExtFin						-0.157 (0.107)	-0.705*** (0.196)	0.040** (0.019)	0.054*** (0.019)	0.101*** (0.033)					
Bank Concentration*ExtFin						0.230 (0.195)	-0.486 (0.376)	-0.003 (0.036)	0.029 (0.041)	-0.010 (0.069)					
(Bank Credit / (Bank Credit + Bond))*ExtFin											1.397*** (0.155)	-1.880*** (0.491)	-0.052 (0.038)	-0.036 (0.037)	-0.081 (0.062)
(All Credit / GDP)*ExtFin	0.261*** (0.062)	0.285 (0.177)	-0.022 (0.015)	-0.022 (0.016)	-0.023 (0.025)	0.019 (0.085)	0.162 (0.174)	0.007 (0.016)	0.006 (0.018)	0.033 (0.030)	0.062 (0.066)	0.547*** (0.172)	-0.019 (0.018)	-0.012 (0.018)	-0.020 (0.031)
Observations	14,790	14,505	12,937	12,888	12,799	15,840	15,435	14,270	14,255	14,117	12,227	11,822	10,278	10,220	10,095
R-squared	0.859	0.526	0.494	0.458	0.513	0.849	0.514	0.435	0.423	0.468	0.877	0.538	0.452	0.404	0.455

Note: This table reports the effects of financial structures on the number, size and dynamics of exporters in 2-digit ISIC industries. The financial structure is captured by the ratio of bank credit to the sum of stock market capitalization and bank credit (columns 1-5); the share of foreign bank assets in total bank assets in the country (columns 6-10); the ratio of bank credit to the sum of bond market capitalization and bank credit (columns 11-15). The dependent variables are the number of exporters (columns 1, 6, 11); the average foreign sales of exporters (columns 2, 7, 12); the entry rate of exporters (columns 3, 8, 13); the exit rate of exporters (columns 4, 9, 14); the turnover (entry+exit) rate of exporters (columns 5, 10, 15). In all regressions All Credit/GDP is used to control for total financial development. Regressions in columns 6-10 also control for the concentration of the banking sector. All regressions include country-year fixed effects and industry-year fixed effects. The regressions in Panel A refer to all the countries in the sample; those in Panel B exclude high-income countries. Robust standard errors, clustered at the country-year level, are in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 3. Bank Soft Budget Constraints: Bank Independence, Supervision, and Monitoring

	FinStruct = Bank Credit / (Bank Credit + Stock)					FinStruct = Foreign Bank / Total Bank Assets				
	Log of Export		Exporter			Log of Export		Exporter		
	Log of # of Exporters	Value per Exporter	Entry Rate	Exit Rate	Turnover Rate	Log of # of Exporters	Value per Exporter	Entry Rate	Exit Rate	Turnover Rate
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Panel A: Bank Susceptibility to Related Parties Pressure (All Countries)</i>										
1. FinStruct*ExtFin	-0.233 (0.681)	-10.145*** (1.350)	0.041 (0.256)	0.384 (0.248)	0.962** (0.406)	0.789*** (0.288)	0.868 (0.879)	-0.316 (0.325)	-0.400 (0.355)	-1.558*** (0.463)
2. FinStruct*ExtFin*Bank Regul.	0.879 (0.677)	9.666*** (1.391)	-0.080 (0.256)	-0.440* (0.249)	-1.037** (0.407)	-0.993*** (0.316)	-1.088 (0.910)	0.356 (0.325)	0.456 (0.356)	1.662*** (0.465)
Observations	15,442	15,239	13,552	13,524	13,461	14,886	14,613	13,452	13,451	13,347
R-squared	0.886	0.547	0.551	0.525	0.570	0.880	0.549	0.507	0.499	0.539
<i>Panel B: Stringency of Bank Auditing and Supervision (All Countries)</i>										
3. FinStruct*ExtFin	0.268 (0.441)	-0.805 (1.457)	-0.363*** (0.104)	-0.301 (0.185)	-0.634** (0.291)	0.106 (0.256)	-0.377 (0.606)	-0.246*** (0.067)	-0.190* (0.101)	-0.414** (0.162)
4. FinStruct*ExtFin*Bank Regul.	0.242 (0.453)	0.559 (1.484)	0.329*** (0.105)	0.246 (0.186)	0.576** (0.292)	-0.204 (0.287)	0.435 (0.638)	0.268*** (0.069)	0.221** (0.102)	0.477*** (0.165)
Observations	15,662	15,459	13,717	13,689	13,626	15,106	14,833	13,617	13,616	13,512
R-squared	0.890	0.555	0.558	0.536	0.579	0.886	0.558	0.515	0.510	0.548
<i>Panel C: Stringency of Bank Directors Sanctioning if Misleading Information (All Countries)</i>										
5. FinStruct*ExtFin	-0.533 (0.549)	4.725* (2.586)	-0.613*** (0.180)	-0.313 (0.222)	-0.791** (0.346)	9.242 (16.344)	-25.160 (49.844)	1.387 (3.485)	-9.550 (7.371)	-8.083 (10.748)
6. FinStruct*ExtFin*Bank Regul.	1.134** (0.563)	-5.196** (2.602)	0.573*** (0.182)	0.255 (0.222)	0.725** (0.346)	-9.131 (16.340)	24.849 (49.841)	-1.361 (3.484)	9.585 (7.369)	8.152 (10.744)
Observations	14,839	14,636	13,002	12,975	12,913	14,401	14,137	13,020	13,019	12,919
R-squared	0.892	0.560	0.564	0.542	0.585	0.886	0.562	0.520	0.513	0.552
<i>Panel D: Stringency of Bank Auditing and Supervision (Excluding High-Income Countries)</i>										
7. FinStruct*ExtFin	-0.818** (0.391)	1.605 (1.573)	-0.496*** (0.139)	-0.599*** (0.187)	-1.134*** (0.263)	-0.468 (0.285)	0.709 (0.697)	-0.329*** (0.101)	-0.310** (0.142)	-0.627*** (0.222)
8. FinStruct*ExtFin*Bank Regul.	1.485*** (0.409)	-1.881 (1.628)	0.433*** (0.140)	0.503*** (0.189)	1.025*** (0.265)	0.371 (0.315)	-0.708 (0.734)	0.354*** (0.102)	0.346** (0.144)	0.697*** (0.224)
Observations	12,582	12,403	10,969	10,938	10,877	13,293	13,035	11,968	11,967	11,863
R-squared	0.869	0.534	0.528	0.498	0.543	0.861	0.533	0.484	0.473	0.514

Note: This table reports the effects of financial structures on the number, size and dynamics of exporters in 2-digit ISIC industries depending on the degree of independence of banks, the quality of auditing and supervision of banks, and the stringency of sanctioning of bank managers. The financial structure is captured by the ratio of bank credit to the sum of stock market capitalization and bank credit (columns 1-5) or the share of foreign bank assets in total bank assets in the country (columns 6-10). The dependent variables are the number of exporters; the average foreign sales of exporters; the entry rate of exporters; the exit rate of exporters; the turnover (entry+exit) rate of exporters. In panel A, Bank Regul. is a dummy variable equal to 1 if in the country related parties can own capital in a bank. In panel B, Bank Regul. is a dummy variable equal to 1 if in the country auditors are required to communicate audits directly to the supervisory agency. In panels C and D, Bank Regul. is a dummy variable equal to 1 if in the country bank directors are legally liable if information disclosed is misleading. All regressions include Bank Regul.*ExtFin, FinDev*ExtFin, FinDev*ExtFin*Bank Regul., country-year fixed effects and industry-year fixed effects, where FinDev is measured as all credit over GDP to control for total financial development. Regressions in columns 6-10 also include Bank Concentration*ExtFin and Bank Concentration*ExtFin*Bank Regul. to control for the concentration of the banking sector. Robust standard errors, clustered at the country-year level, are in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 4a. Banks' Buffering Role: Financial Crises

	Log of # of Exporters	Log of Export Value per Exporter	Exporter Entry Rate	Exporter Exit Rate	Exporter Turnover Rate
	(1)	(2)	(3)	(4)	(5)
<i>Panel A: Banks vs. Stock Market</i>					
(Bank Credit / (Bank Credit + Stock))*ExtFin	0.411*** (0.121)	-0.372 (0.263)	-0.038 (0.024)	-0.061** (0.026)	-0.063 (0.042)
(Bank Credit / (Bank Credit + Stock))*ExtFin*Fin. Crisis	-1.521*** (0.340)	6.173*** (1.673)	-0.101 (0.144)	-0.003 (0.204)	-0.149 (0.290)
Observations	17,870	17,561	15,685	15,639	15,548
R-squared	0.882	0.550	0.528	0.498	0.551
<i>Panel B: Foreign Banks vs. Domestic Banks</i>					
(Foreign Bank / Total Bank Assets)*ExtFin	-0.138 (0.106)	-0.648*** (0.196)	0.040** (0.019)	0.050*** (0.019)	0.099*** (0.033)
(Foreign Bank / Total Bank Assets)*ExtFin*Fin. Crisis	-0.991*** (0.356)	1.669** (0.762)	-0.172*** (0.059)	-0.064 (0.115)	-0.264** (0.121)
Observations	17,653	17,233	15,919	15,904	15,766
R-squared	0.876	0.542	0.467	0.459	0.502

Note: This table reports the effects of financial structures on the number, size and dynamics of exporters in 2-digit ISIC industries differentiating between normal times and financial crises. The financial structure is captured by the ratio of bank credit to the sum of stock market capitalization and bank credit (panel A) and the share of foreign bank assets in the total bank assets of the country (panel B). The dependent variables are the number of exporters (column 1); the average sales of exporters (column 2); the entry rate of exporters (column 3); the exit rate of exporters (column 4); the turnover (entry+exit) rate of exporters (column 5). Fin. crisis is a dummy equal to 1 if in the country a financial crisis occurs during the year (see text for details). All regressions include FinDev*ExtFin, ExtFin*Fin. Crisis, FinDev*ExtFin*Fin. Crisis, country-year fixed effects and industry-year fixed effects, where FinDev is measured as all credit over GDP to control for total financial development. Regressions in panel B also include Bank Concentration*ExtFin and Bank Concentration*ExtFin*Fin. Crisis to control for the concentration of the banking sector. Robust standard errors, clustered at the country-year level, are in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 4b. Banks' Buffering Role: Recession

	Log of # of Exporters	Log of Export Value per Exporter	Exporter Entry Rate	Exporter Exit Rate	Exporter Turnover Rate
	(1)	(2)	(3)	(4)	(5)
<i>Panel A: Banks vs. Stock Market</i>					
(Bank Credit / (Bank Credit + Stock))*ExtFin	0.251* (0.129)	0.023 (0.271)	-0.042* (0.024)	-0.070** (0.028)	-0.070 (0.044)
(Bank Credit / (Bank Credit + Stock))*ExtFin*Recess.	0.495* (0.299)	-1.111** (0.562)	0.029 (0.064)	0.049 (0.060)	0.023 (0.103)
Observations	17,870	17,561	15,685	15,639	15,548
R-squared	0.883	0.550	0.528	0.498	0.551
<i>Panel B: Foreign Banks vs. Domestic Banks</i>					
(Foreign Bank / Total Bank Assets)*ExtFin	-0.240* (0.126)	-0.765*** (0.231)	0.047** (0.022)	0.062*** (0.019)	0.125*** (0.033)
(Foreign Bank / Total Bank Assets)*ExtFin*Recess.	0.350* (0.209)	0.734 (0.488)	-0.053 (0.047)	-0.046 (0.048)	-0.129 (0.085)
Observations	17,653	17,233	15,919	15,904	15,766
R-squared	0.876	0.542	0.467	0.459	0.503

Note: This table reports the effects of financial structures on the number, size and dynamics of exporters in 2-digit ISIC industries differentiating between normal times and recessions. The financial structure is captured by the ratio of bank credit to the sum of stock market capitalization and bank credit (panel A) and the share of foreign bank assets in the total bank assets of the country (panel B). The dependent variables are the number of exporters (column 1); the average sales of exporters (column 2); the entry rate of exporters (column 3); the exit rate of exporters (column 4); the turnover (entry+exit) rate of exporters (column 5). *Recess.* is a dummy equal to 1 if in the country a recession occurs during the year (see text for details). All regressions include *FinDev*ExtFin*, *ExtFin*Recess.*, *FinDev*ExtFin*Recess.*, country-year fixed effects and industry-year fixed effects, where *FinDev* is measured as all credit over GDP to control for total financial development. Regressions in panel B also include *Bank Concentration*ExtFin* and *Bank Concentration*ExtFin*Recess.* to control for the concentration of the banking sector. Robust standard errors, clustered at the country-year level, are in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 5a. Banks' Buffering Role: Informational and Contractual Complexity

	Log of # of Exporters	Log of Export Value per Exporter	Exporter Entry Rate	Exporter Exit Rate	Exporter Turnover Rate
	(1)	(2)	(3)	(4)	(5)
<i>Panel A: Country-Level Credit Information Coverage</i>					
1. Foreign Bank*ExtFin	-0.114 (0.105)	-0.612*** (0.179)	0.028 (0.018)	0.043** (0.019)	0.080** (0.031)
2. Foreign Bank*ExtFin*Credit bureau cover.	0.001 (0.003)	-0.008 (0.006)	-0.000 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Observations	18,114	17,689	16,327	16,316	16,171
R-squared	0.873	0.540	0.469	0.464	0.506
<i>Panel B: Product-Level Informational Complexity*Country-Level Rule of Law</i>					
3. Foreign Bank*Rauch	1.068*** (0.166)	-0.067 (0.253)	-0.042* (0.026)	-0.052* (0.027)	-0.080 (0.050)
4. Foreign Bank*Rauch*Rule of law	-0.707*** (0.225)	-0.349 (0.390)	-0.028 (0.047)	-0.030 (0.049)	-0.082 (0.094)
Observations	18,114	17,689	16,327	16,316	16,171
R-squared	0.880	0.542	0.471	0.465	0.508
<i>Panel C: Product-Level Informational Complexity*Country-Level Strength of Legal Rights</i>					
5. Foreign Bank*Rauch	1.067*** (0.176)	0.064 (0.301)	-0.007 (0.025)	-0.022 (0.026)	-0.014 (0.049)
6. Foreign Bank*Rauch*Strength of legal rights	-0.110* (0.067)	0.288** (0.142)	-0.005 (0.011)	-0.013 (0.011)	-0.022 (0.020)
Observations	18,114	17,689	16,327	16,316	16,171
R-squared	0.880	0.543	0.472	0.466	0.509

Note: This table reports the effects of financial structures on the number, size and dynamics of exporters in 2-digit ISIC industries depending on the degree of informational and contractual complexity. The financial structure is captured by the share of foreign bank assets in total bank assets in the country. The dependent variables are the number of exporters; the average foreign sales of exporters; the entry rate of exporters; the exit rate of exporters; the turnover (entry+exit) rate of exporters. All regressions include FinDev*ExtFin, Bank Concentration*ExtFin, country-year fixed effects and industry-year fixed effects, where FinDev is measured as all credit over GDP to control for total financial development and Bank Concentration is used to control for the concentration of the banking sector. Regressions in panel A also include ExtFin*Credit bureau coverage. Credit bureau coverage is the percentage of adults covered by credit bureaus in the country. Regressions in panel B also include Foreign Bank*ExtFin and Rauch*Rule of Law. The Rauch indicator of contractual complexity is defined in Section 3.3. The rule of law index is from the Worldwide Governance Indicators. Regressions in panel C also include Foreign Bank*ExtFin and Rauch*Strength of legal rights. The strength of legal rights is from Doing Business. Credit bureau coverage, rule of law, and strength of legal rights are demeaned by the sample average. Robust standard errors, clustered at the country-year level, are in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively. □

Table 5b. Banks' Buffering Role: Informational and Contractual Complexity (contd.)

	Log of # of Exporters	Log of Export Value per Exporter	Exporter Entry Rate	Exporter Exit Rate	Exporter Turnover Rate
	(1)	(2)	(3)	(4)	(5)
<i>Panel A: Product-Level Contractual Complexity*Country-Level Rule of Law</i>					
1. Foreign Bank*Nunn	1.656*** (0.194)	0.330 (0.340)	-0.086*** (0.033)	-0.104*** (0.034)	-0.169*** (0.065)
2. Foreign Bank*Nunn*Rule of law	-0.936*** (0.281)	-0.654 (0.477)	-0.066 (0.059)	-0.069 (0.061)	-0.152 (0.121)
Observations	18,114	17,689	16,327	16,316	16,171
R-squared	0.880	0.544	0.471	0.465	0.508
<i>Panel B: Product-Level Contractual Complexity*Country-Level Strength of Legal Rights</i>					
3. Foreign Bank*Nunn	1.719*** (0.237)	0.646* (0.381)	-0.058* (0.034)	-0.079** (0.036)	-0.119* (0.068)
4. Foreign Bank*Nunn*Strength of legal rights	-0.176* (0.092)	0.174 (0.189)	-0.002 (0.015)	-0.010 (0.015)	-0.019 (0.029)
Observations	18,114	17,689	16,327	16,316	16,171
R-squared	0.879	0.543	0.471	0.465	0.508

Note: This table reports the effects of financial structures on the number, size and dynamics of exporters in 2-digit ISIC industries depending on the degree of informational and contractual complexity of products and countries. The financial structure is captured by the share of foreign bank assets in total bank assets in the country. The dependent variables are the number of exporters; the average foreign sales of exporters; the entry rate of exporters; the exit rate of exporters; the turnover (entry+exit) rate of exporters. All regressions include FinDev*ExtFin, FinDev*Nunn, Foreign Bank*ExtFin, Bank Concentration*ExtFin, country-year fixed effects and industry-year fixed effects, where FinDev is measured as all credit over GDP to control for total financial development and Bank Concentration is used to control for the concentration of the banking sector. Regressions in panel A also include Nunn*Rule of Law and FinDev*Nunn*Rule of Law. Regressions in panel B also include Nunn*Strength of legal rights and FinDev*Nunn*Strength of legal rights. The Nunn indicator of contractual complexity is defined in Section 3.3. The rule of law index is from the Worldwide Governance Indicators. The strength of legal rights is from Doing Business. The rule of law index and strength of legal rights are demeaned by the sample average. Robust standard errors, clustered at the country-year level, are in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 6. Financial Structure, Export Sector Concentration, and Second Year Survival

	<i>Export Concentration</i>		<i>Second Year Survival</i>		
	Herfindahl- Hirschman Index	Share of top 5% Exporters	Baseline	Smaller Exporters	Bigger Exporters
	(1)	(2)	(3)	(4)	(5)
<i>Panel A: Banks vs. Stock Market</i>					
(Bank Credit / (Bank Credit + Stock))*ExtFin	-0.129*** (0.035)	-0.073** (0.037)	0.027 (0.026)	-0.065 (0.074)	0.039 (0.028)
Observations	17,561	15,098	11,654	3,221	8,344
R-squared	0.453	0.441	0.325	0.316	0.373
<i>Panel B: Foreign Banks vs. Domestic Banks</i>					
(Foreign Bank / Total Bank Assets)*ExtFin	0.026 (0.027)	-0.070** (0.028)	-0.014 (0.019)	-0.074** (0.035)	0.028 (0.028)
Observations	17,233	13,888	10,432	4,681	5,738
R-squared	0.413	0.440	0.283	0.252	0.341

Note: This table reports the effects of financial structures on concentration of the exporters in 2-digit ISIC industries (columns 1-2), and on the second year survival rate (columns 3-5). Export concentration is captured by the Herfindhal index (column 1) or the share of export sales of the top 5% of exporters (column 2). The financial structure is captured by the ratio of bank credit to the sum of stock market capitalization and bank credit (panel A); the share of foreign bank assets in total bank assets in the country (panel B). In columns 4 and 5, smaller exporters are those with export values below the median, and bigger exporters are those with export values above the median. All regressions include FinDev*ExtFin, country-year fixed effects and industry-year fixed effects, where FinDev is measured as all credit over GDP to control for total financial development. Regressions in panel B also include Bank Concentration*ExtFin to control for the concentration of the banking sector. Robust standard errors, clustered at the country-year level, are in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 7. Robustness: Information Complexity and Contractual Completeness

	Log of Export Value per				
	Log of # of Exporters	Exporter	Exporter Entry Rate	Exporter Exit Rate	Exporter Turnover Rate
	(1)	(2)	(3)	(4)	(5)
<i>Panel A: IV Estimates for the Baseline Specification</i>					
Foreign Bank*ExtFin	-2.258*** (0.716)	-0.131 (0.869)	0.184** (0.084)	0.196** (0.095)	0.295* (0.150)
<i>First-stage</i>					
Entry barriers (t-5)*ExtFin	0.103*** (0.025)	0.100*** (0.025)	0.096*** (0.025)	0.097*** (0.025)	0.096*** (0.025)
Kleibergen-Paap F stat	17.05	16.39	14.33	14.52	14.47
Cragg-Donald F stat	757.27	705.64	593.56	607.68	602.14
<i>Panel B: Alternative Measure of Country-Level Credit Information Coverage</i>					
Foreign Bank*ExtFin	-0.060 (0.110)	-0.667*** (0.188)	0.021 (0.017)	0.033* (0.018)	0.064** (0.030)
Foreign Bank*ExtFin*Credit registry coverage	0.017** (0.008)	-0.007 (0.013)	-0.002** (0.001)	-0.003*** (0.001)	-0.006*** (0.002)
Observations	18,114	17,689	16,327	16,316	16,171
R-squared	0.873	0.540	0.469	0.464	0.507
<i>Panel C: Alternative Measure of Informational Complexity</i>					
Foreign Bank*Rauch	1.022*** (0.147)	-0.061 (0.249)	-0.037 (0.025)	-0.044 (0.027)	-0.064 (0.049)
Foreign Bank*Rauch*Gov't effectiveness	-0.628*** (0.206)	-0.138 (0.405)	0.009 (0.047)	0.010 (0.047)	-0.012 (0.091)
Observations	18,114	17,689	16,327	16,316	16,171
R-squared	0.882	0.543	0.471	0.465	0.508
<i>Panel D: Alternative Measure of Contractual Complexity</i>					
Foreign Bank*Nunn	1.645*** (0.167)	0.303 (0.330)	-0.084** (0.033)	-0.099*** (0.035)	-0.161** (0.065)
Foreign Bank*Nunn*Gov't effectiveness	-0.792*** (0.263)	-0.460 (0.530)	-0.038 (0.061)	-0.027 (0.062)	-0.098 (0.122)
Observations	18,114	17,689	16,327	16,316	16,171
R-squared	0.880	0.545	0.471	0.465	0.508

Note: This table reports robustness tests for the effects of financial structures on the number, size and dynamics of exporters in 2-digit ISIC industries depending on the degree of informational and contractual complexity of products and countries. The financial structure is captured by the share of foreign bank assets in total bank assets in the country. The dependent variables are the number of exporters; the average foreign sales of exporters; the entry rate of exporters; the exit rate of exporters; the turnover (entry+exit) rate of exporters. All regressions include FinDev*ExtFin, Bank Concentration*ExtFin, country-year fixed effects and industry-year fixed effects, where FinDev is measured as all credit over GDP to control for total financial development and Bank Concentration is used to control for the concentration of the banking sector. Panel A reports the two-stage least squares estimates of the baseline specification (see equation (1) in Section 3) where Foreign Bank is instrumented using Entry Barrier lagged by five years. The indicator for Entry Barrier takes values from 0 to 3, with 0 representing the highest barriers and 3 the lowest. Regressions in panel B also include ExtFin*Credit registry coverage and FinDev*ExtFin*Credit registry coverage. The credit registry coverage is the percentage of adult population covered by a credit registry. Regressions in panel C also include Rauch*Gov't effectiveness, Foreign bank*ExtFin, FinDev*Rauch, and FinDev*Rauch*Gov't effectiveness. Regressions in panel D also include Nunn*Gov't effectiveness, Foreign bank*ExtFin, FinDev*Nunn, and FinDev*Nunn*Gov't effectiveness. The Rauch and Nunn indicator of contractual complexity are defined in Section 3.3. The Government Effectiveness index is from the Worldwide Governance Indicators. Credit registry coverage and Gov't effectiveness are demeaned by the sample average. Robust standard errors, clustered at the country-year level, are in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Supplementary Table S1. Summary statistics

Country Name	Country Code	All Credit / GDP	Bank Credit / (Bank Credit + Stock)	Bank Credit / (Bank Credit + Bond)	Foreign Bank / Total Bank Assets	# of Exporters	Export Value per Exporter	Exporter Entry Rate	Exporter Exit Rate	Exporter Turnover Rate	Herfindahl-Index	Share of top 5% Exporters
25th percentile		15%	82%	329%	14%	31	316571	53%	51%	104%	24%	57%
75th percentile		51%	335%	4336%	75%	285	1056421	67%	64%	128%	42%	78%
Albania	ALB	27%			92%	62	232830	58%	55%	112%	31%	56%
Bangladesh	BGD	35%	72%	100%	3%	190	586998	60%	58%	118%	32%	58%
Bolivia	BOL	37%	67%		15%	32	1358673	47%	47%	88%	43%	54%
Botswana	BWA	23%	41%	91%	87%	101	302699	67%	65%	131%	36%	74%
Bulgaria	BGR	26%	79%		75%	636	342162	53%	52%	105%	17%	80%
Burkina Faso	BFA	17%			91%	15	533002	70%	70%	138%	41%	43%
Cambodia	KHM	11%		100%	46%	22	493801	70%	69%	136%	48%	49%
Cameroon	CMR	9%		99%	76%	37	297883	65%	66%	131%	38%	59%
Chile	CHL	83%	37%	62%	37%	247	3200124	51%	50%	101%	24%	76%
Colombia	COL	39%	38%	99%	12%	345	1018239	48%	49%	97%	21%	76%
Costa Rica	CRI	33%	79%		30%	145	830290	58%	55%	112%	36%	80%
Cote d'Ivoire	CIV	16%	38%	97%		51	2068785	59%	60%	118%	40%	67%
Croatia	HRV	66%	56%	97%	90%	486	744144	46%	44%	90%	24%	84%
Denmark	DNK	172%	74%	52%	17%	1026	1491344	42%	41%	83%	10%	86%
Dominican Republic	DOM	22%			8%	104	838062	65%	61%	126%	33%	73%
Ecuador	ECU	22%	75%		13%	98	805065	59%	58%	117%	34%	69%
El Salvador	SLV	86%	81%		82%	145	550021	55%	55%	110%	29%	73%
Ethiopia	ETH	17%		91%	0%	31	443533	65%	66%	122%	39%	50%
Gabon	GAB	10%		95%		15	1079309	56%	52%	104%	48%	32%
Georgia	GEO	22%	76%	100%	56%	49	402805	68%	64%	131%	43%	61%
Germany	DEU	89%	71%	72%	11%	8429	4695525	36%	30%	65%	6%	89%
Guatemala	GTM	26%			25%	272	348373	60%	59%	119%	26%	78%
Guinea	GIN	5%		100%		11	1889588	77%	75%	149%	52%	52%
Iran, Islamic Rep.	IRN	49%	79%		0%	573	551200	72%	74%	146%	17%	66%
Jordan	JOR	74%	35%		19%	62	850387	57%	53%	108%	36%	60%
Kenya	KEN	30%	48%	98%	37%	281	254195	60%	60%	120%	24%	80%
Kosovo	QOS	35%				38	57180	67%	64%	128%	33%	49%
Kuwait	KWT	82%	45%		8%	150	305850	71%	72%	143%	25%	70%
Lao PDR	LAO	11%		100%		13	2222693	64%	55%	113%	56%	45%

Table S1. Summary statistics (con't)

Country Name	Country Code	All Credit / GDP	Bank Credit / (Bank Credit + Stock)	Bank Credit / (Bank Credit + Bond)	Foreign Bank / Total Bank Assets	# of Exporters	Export Value per Exporter	Exporter Entry Rate	Exporter Exit Rate	Exporter Turnover Rate	Herfindahl-Hirschman Index	Share of top 5% Exporters
Lebanon	LBN	74%	71%	97%	32%	288	250456	56%	56%	112%	22%	71%
Macedonia, FYR	MKD	27%	76%		62%	97	327292	56%	54%	109%	27%	65%
Madagascar	MDG	10%			100%	72	189341	61%	62%	122%	34%	61%
Malawi	MWI	10%	29%		30%	43	144672	79%	80%	158%	44%	65%
Mali	MLI	17%		92%	38%	11	810951	64%	64%	126%	47%	38%
Mauritius	MUS	74%	59%	100%	61%	138	277991	54%	53%	106%	27%	73%
Mexico	MEX	19%	38%	52%	77%	1518	3986566	50%	47%	97%	12%	87%
Morocco	MAR	59%	53%		19%	225	1264603	58%	57%	115%	31%	75%
Myanmar	MMR	10%		100%		27	974332	72%	58%	124%	45%	48%
Nepal	NPL	53%	69%	100%	12%	61	470276	59%	57%	111%	41%	58%
Nicaragua	NIC	25%			52%	53	408625	60%	59%	118%	32%	60%
Niger	NER	11%				4	593374	74%	70%	137%	63%	
Norway	NOR	80%	63%	73%	18%	803	929375	53%	51%	104%	17%	86%
Pakistan	PAK	25%	50%	100%	43%	617	243038	68%	65%	133%	20%	66%
Paraguay	PRY	27%	93%		53%	19	1451727	36%	41%	71%	45%	42%
Peru	PER	23%	41%	64%	49%	253	1014748	59%	57%	116%	25%	75%
Portugal	PRT	124%	76%	79%	23%	1173	839738	52%	48%	100%	18%	86%
Romania	ROU	34%	71%		83%	606	2133930	48%	48%	96%	16%	79%
Rwanda	RWA	10%		100%	35%	12	55131	83%	81%	162%	49%	50%
Sao Tome and Principe	STP	28%				4	30871				56%	
Senegal	SEN	21%		95%	81%	36	419593	60%	59%	118%	37%	57%
South Africa	ZAF	136%	27%	80%	26%	1787	536810	52%	51%	103%	12%	87%
Spain	ESP	154%	65%	77%	2%	3753	1567527	49%	47%	96%	8%	88%
Sri Lanka	LKA	28%	54%	100%	0%	190	884941				31%	79%
Swaziland	SWZ	20%		95%	78%	77	290646				32%	67%
Tanzania	TZA	12%	68%		63%	67	426314	72%	68%	139%	34%	66%
Thailand	THA	137%	55%	76%	7%	1860	2498934	42%	43%	85%	9%	88%
Timor-Leste	TLS	15%		100%		3	220001	47%	49%	84%	70%	
Turkey	TUR	31%	50%	100%	13%	2895	1166485	53%	48%	101%	8%	82%
Uganda	UGA	9%	75%	98%	89%	29	249026	74%	65%	136%	41%	59%
Uruguay	URY	31%	98%		59%	52	1405100	54%	54%	107%	36%	63%
Yemen, Rep.	YEM	6%			0%	24	351562	62%	64%	119%	46%	56%
Zambia	ZMB	8%	38%		87%	42	1033532	71%	65%	135%	39%	59%

Supplementary Table S2a.

	Log of Export	Exporter Entry Rate	Exporter Exit Rate	Exporter Turnover Rate	Log of Export	Exporter Entry Rate	Exporter Exit Rate	Exporter Turnover Rate	Log of Export	Exporter Entry Rate	Exporter Exit Rate	Exporter Turnover Rate			
	Log of # of Exporters	Value per Exporter	Rate	Rate	Log of # of Exporters	Value per Exporter	Entry Rate	Exit Rate	Rate	Log of # of Exporters	Value per Exporter	Entry Rate	Exit Rate	Rate	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(Bank Credit / (Bank Credit + Stock))*EXTFIN*Credit bureau coverage	1.065*** (0.336)	-3.467*** (0.764)	-0.149** (0.075)	-0.221** (0.086)	-0.416*** (0.135)										
(Bank Credit / (Bank Credit + Stock))*EXTFIN	33.274** (13.878)	6.902 (26.540)	-1.277 (2.932)	-1.370 (3.151)	1.152 (5.186)	32.284*** (11.008)	-24.127 (25.494)	-2.778 (2.212)	-4.865* (2.504)	-4.433 (3.981)	33.410*** (10.804)	-26.725 (25.629)	-2.708 (2.200)	-4.875* (2.496)	-4.395 (3.953)
EXTFIN*Credit bureau coverage	-0.012*** (0.002)	0.029*** (0.006)	0.001* (0.001)	0.001* (0.001)	0.002** (0.001)										
(Bank Credit / (Bank Credit + Stock))*Rauch						-92.381*** (26.655)	13.066 (47.982)	13.042*** (4.063)	11.906*** (3.943)	24.470*** (7.369)	-30.197 (27.998)	-14.679 (47.623)	12.837*** (4.090)	10.445** (4.142)	23.052*** (7.718)
(Bank Credit / (Bank Credit + Stock))*Rauch*Rule of law						162.408*** (31.631)	70.321 (86.521)	-2.687 (8.758)	-6.789 (8.675)	-6.690 (16.959)					
Rauch*Rule of law						-0.169 (0.181)	-0.569 (0.505)	0.021 (0.051)	0.043 (0.052)	0.062 (0.101)					
(Bank Credit / (Bank Credit + Stock))*Rauch*Strength of legal rights											-17.544 (16.871)	91.141*** (15.957)	-4.142** (1.901)	-2.185 (1.653)	-5.683* (3.229)
Rauch*Strength of legal rights											0.231** (0.111)	-0.599*** (0.094)	0.017 (0.012)	0.005 (0.010)	0.019 (0.019)
<i>Controls:</i>															
(All Credit / GDP)*EXTFIN	0.119*** (0.033)	0.199** (0.090)	-0.002 (0.009)	-0.001 (0.009)	-0.007 (0.016)	0.137*** (0.031)	0.333*** (0.090)	-0.001 (0.008)	0.003 (0.009)	0.000 (0.015)	0.132*** (0.032)	0.337*** (0.091)	-0.001 (0.008)	0.003 (0.009)	0.000 (0.015)
All Credit*EXTFIN*Credit bureau coverage	0.006*** (0.001)	-0.013*** (0.004)	0.000 (0.000)	0.000 (0.000)	0.001 (0.001)										
(All Credit / GDP)*Rauch						0.360** (0.143)	0.630** (0.263)	-0.083*** (0.021)	-0.075*** (0.024)	-0.153*** (0.041)	0.950*** (0.094)	0.208 (0.156)	-0.045*** (0.015)	-0.029** (0.014)	-0.078*** (0.026)
All Credit*Rauch*Rule of law						-0.324*** (0.105)	-0.148 (0.227)	0.016 (0.019)	0.021 (0.021)	0.018 (0.037)					
All Credit*Rauch*Strength of legal rights											-0.026 (0.039)	-0.029 (0.050)	-0.001 (0.005)	-0.006 (0.005)	-0.009 (0.009)
Observations	17,870	17,561	15,685	15,639	15,548	17,870	17,561	15,685	15,639	15,548	17,870	17,561	15,685	15,639	15,548
R-squared	0.883	0.550	0.528	0.498	0.551	0.889	0.550	0.531	0.500	0.554	0.887	0.552	0.533	0.502	0.556

Note: Robust standard errors, clustered at the country-year level, are in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Supplementary Table S2b.

	Log of Export					Log of Export					Log of Export				
	Log of # of Exporters	Value per Exporter	Exporter Entry Rate	Exporter Exit Rate	Exporter Turnover Rate	Log of # of Exporters	Value per Exporter	Exporter Entry Rate	Exporter Exit Rate	Exporter Turnover Rate	Log of # of Exporters	Value per Exporter	Exporter Entry Rate	Exporter Exit Rate	Exporter Turnover Rate
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(Bank Credit / (Bank Credit + Stock))*Nunn	-52.365	49.074	18.610***	16.442***	34.812***	-108.901***	12.456	18.340***	17.500***	34.832***	-13.710	5.127	18.782***	15.631***	34.281***
(Bank Credit / (Bank Credit + Stock))*Nunn*Rule of law	(36.957)	(59.630)	(5.490)	(5.321)	(10.123)	(36.031)	(63.570)	(5.582)	(5.383)	(10.123)	(35.904)	(58.653)	(5.197)	(5.111)	(9.645)
Nunn*Rule of law						154.406***	198.804**	1.998	-5.207	2.279					
						(39.517)	(100.774)	(11.265)	(11.183)	(21.860)					
						0.164	-0.919	-0.028	-0.000	-0.038					
						(0.245)	(0.585)	(0.068)	(0.069)	(0.134)					
(Bank Credit / (Bank Credit + Stock))*Nunn*Strength of legal rights											-40.219**	116.051***	-8.283***	-5.869***	-13.296***
Nunn*Strength of legal rights											(20.227)	(23.012)	(2.689)	(2.255)	(4.564)
											0.463***	-0.815***	0.041**	0.025*	0.065**
											(0.136)	(0.139)	(0.017)	(0.014)	(0.029)
(Bank Credit / (Bank Credit + Stock))*EXTFIN	38.736***	-27.820	-4.408*	-6.299**	-7.487*	37.600***	-28.187	-4.408*	-6.263**	-7.478*	39.060***	-29.570	-4.314*	-6.266**	-7.323*
	(11.761)	(23.202)	(2.247)	(2.545)	(4.070)	(11.720)	(23.248)	(2.253)	(2.556)	(4.087)	(11.642)	(23.223)	(2.242)	(2.543)	(4.050)
Controls:															
(All Credit / GDP)*EXTFIN	0.031	0.283***	0.005	0.008	0.012	0.034	0.286***	0.005	0.008	0.012	0.031	0.284***	0.005	0.008	0.012
	(0.034)	(0.084)	(0.008)	(0.009)	(0.015)	(0.034)	(0.084)	(0.008)	(0.009)	(0.015)	(0.034)	(0.085)	(0.008)	(0.009)	(0.015)
(All Credit / GDP)*Nunn	1.106***	0.752***	-0.067***	-0.059***	-0.130***	-0.036	0.728**	-0.066**	-0.065**	-0.119**	1.149***	0.611***	-0.052***	-0.039**	-0.093***
	(0.104)	(0.174)	(0.016)	(0.017)	(0.031)	(0.200)	(0.325)	(0.029)	(0.032)	(0.058)	(0.119)	(0.214)	(0.019)	(0.018)	(0.034)
All Credit*Nunn*Rule of law						-0.178	-0.255	0.010	0.029	0.011					
						(0.128)	(0.273)	(0.025)	(0.027)	(0.049)					
All Credit*Nunn*Strength of legal rights											-0.043	0.049	-0.003	-0.008	-0.014
											(0.046)	(0.073)	(0.006)	(0.006)	(0.012)
Observations	17,870	17,561	15,685	15,639	15,548	17,870	17,561	15,685	15,639	15,548	17,870	17,561	15,685	15,639	15,548
R-squared	0.885	0.551	0.531	0.500	0.554	0.889	0.551	0.531	0.500	0.554	0.887	0.553	0.533	0.502	0.556

Note: Robust standard errors, clustered at the country-year level, are in parentheses.

*** p<0.01, ** p<0.05, * p<0.1