

A Push over Trade Barriers: Firms' Access to External Finance and Their Sales Hierarchy

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Keywords: Domestic trade barriers; External financing; Multi-destination market sales

JEL: F14; F63; M21

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Abstract

This paper analyzes the effects of external finance on firms' decision to choose a firm type with different sales combinations, in the presence of *both* domestic and international trade costs. It utilizes a World Bank survey of firms operating in China in the early 2000s with a multinomial logit method to inform the study. Based on firms' sales destinations, we categorize firms in four exclusive types as *Provincial Firms*, *Domestic Firms*, *Pure Exporters* and *All Sellers* to highlight domestic trade barriers across provincial borders and international trade barriers. We find that access to financial loans significantly raises firms' odds to overcome domestic and international trade barriers by choosing a firm type with sales beyond their home provincial borders and/or overseas. The effects vary across firm ownership types of being SOEs, Foreign affiliates and Private firms, highlighting their inherent differences. The results indicate loans' perceived importance, reflecting the inefficient loan allocations in China. Further, the results here help uncover the pervasiveness of China's domestic trade barriers: access to external finance significantly increases the odds for firms to sell outside their home provinces even if they did not feel local protection and *more* for those if they did.

Keywords: Domestic trade barriers; External financing; Firm Sales

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1. Introduction

Although it is often assumed in the trade literature that a country's domestic markets are integrated, and domestic trade occurs at no or little additional costs, it is seldom the case in reality. Domestic trade barriers, like their counterparts of international trade barriers, are shown to hinder intra-national trade flows both in developing economies and in developed countries such as the United States (Wolf, 2000; Hillberry and Hummels, 2003, 2008; Coughlin and Novy, 2013; Nitsch and Wolf, 2013).¹ China is no exception, as China is still in its early stage of fostering an integrated domestic market with its ongoing market-oriented economic reforms. Domestic trade barriers across China's provincial borders are widespread by overt and often covert local protections, widely reported in many studies such as Poncet (2003; 2005) and Huang et al. (2015).

This paper studies the importance of external finance, in terms of loans from banks and financial institutions, for firms to overcome domestic and international trade costs to advance their sales both domestically and internationally. We utilize a survey of firms operating in China in the early 2000s conducted by the World Bank in 2005 to inform our study. The research builds on a rich literature on the role of external finance to enable firms to overcome international trade barriers to become exporters, while it extends to include domestic trade barriers. In so doing, the paper presents a complete scenario of trade barriers firms face in their sales expansion both domestically and internationally.

The presence of trade barriers require firms to have sufficient liquidity so that they can set up trade channels by paying off the associated fixed costs, often upfront before they have any sales. While borrowing loans is a feasible way in many developed countries to ease firms' financial constraint, access to external finance is often very costly, and even difficult, especially in many developing countries with less developed financial market. China, as a large developing country, has been taking on series of regulations or measures to transition from a planned economy to a market economy. However, in that process, Chinese firms have witnessed not only the creation of domestic trade barriers, but also the difficulty of borrowing loans from its inefficient financial market.

With background, we study the effects of external finance on Chinese firms' decision to advance their sales domestically and internationally to overcome trade costs. The mechanism of external finance to allow firms to advance their domestic sales works similarly as that for firms' international sales, through added additional costs. In exports, these costs occur while acquiring information about foreign markets, customizing products to fit foreign tastes, setting up international distribution networks and overcoming tariff and non-tariff barriers. These costs are largely sunk in nature and are often have to be paid up front.² In addition,

¹ For instance, Coughlin and Novy (2013) show that trade flows appear to be substantially impeded by state borders in the US. In certain cases, the intra-national border effect in US is found to be surprisingly higher than its international counterparts.

² The presence of sunk costs in international trade has been widely reported, such as Roberts and Tybout (1997), Bernard and Jensen (2004), Das et al., (2007), and Roberts et al., (2012).

exporting to a foreign market also adds extra layers of complexity: there tends to be a longer time-lag between production and the receipt of sales revenue regarding exports; and exporters also face inherently more risk, due to the increasing difficulty to enforce payment across country boundaries (Amiti and Weinstein, 2011). While tastes for domestic consumers are less heterogeneous than international consumers, and enforcement of payments domestically might be easier on travel arrangements, but the fixed cost of setting up sales channels in the presence of domestic trade barriers would present as much a hurdle as that in international trade barriers. Better access to external finance can reduce borrowing costs for firms so that some firms can maintain certain cost advantages to become exporters (Berman and Hericourt, 2010; Minetti and Zhu, 2011; Manova, 2013; Behrens et al., 2013; Feenstra et al., 2014), and it would also allow firms to expand domestically to overcome domestic trade barriers.

Understanding the existence of China's domestic trade barriers and the general difficulty for external borrowing is conducive for our study. The causes for China's segmented domestic market across provincial borders are multi-dimensional, but the leading one is its fiscal policy introduced after 1978, when the Chinese central government gradually broke down its centralized fiscal management system, and replaced with various forms of fiscal contracting system and tax sharing system (Shen et al., 2012) with local governments. Such reforms had encouraged local governments to be fiscally responsible, but they were also motivated to create conditions to foster local business for their tax base. As a by-product, these measures inadvertently helped raise interregional trade barriers and local protection (Huang et al., 2015). These interregional barriers have effectively fragmented the Chinese domestic market across provincial borders, which are widely documented in many studies.³ As a result, only more productive firms choose to sell outside their home provincial markets (Huang et al., 2015; Bao et al., 2015), which mirrors the findings in the trade literature that more productive firms become exporters, in the presence of trade barriers.⁴

At the same time, development of China's financial markets especially during the sample period was lagging behind. Before and during the period of the early 2000s, China's financial market was heavily under-developed, and many allocations of financial resources were largely inefficient (Allen et al., 2005; Guariglia and Poncet, 2008; Cull et al., 2009; Huang et al., 2015). The inefficiency of financial markets especially added strains to firms with a desire for rapid sales expansions during the period, post China's entry to the World Trade Organization in December 2001. Getting access to external finance was a priority for many firms, and financial constraints were a common problem. But, relatively speaking, state-owned firms and foreign-owned affiliates enjoyed better access (Lin and Tan, 1999; Cull and

³ Various scholars, in their study of the Chinese economy, have noticed the significant inter-provincial trade barriers, including, but not limited to, Young (2000), Poncet (2003, 2005), Naughton (2003), Bai et al., (2004), Xu and Fan (2012), Wong (2012), and Huang et al., (2015). In particular, Wong (2012) finds that China's domestic trade costs are nearly twice as large as its international trade costs.

⁴ Empirical studies, as early as Bernard and Jensen (1995), have provided numerous cases that showed a clear linkage between a firm's productivity and its export decision. This evidence is also documented in surveys by Wagner (2007), and Greenaway and Kneller (2007), among others.

Xu, 2000, 2003; Poncet, et al., 2010).⁵ Privately and collectively owned firms were often found to face credit constraints on the one hand, and were discriminated against in getting financial loans on the other (Langlois, 2001).⁶

To highlight domestic trade barriers across provincial borders and to differentiate domestic and international trade barriers, we group firms' sales in three destinations: in firms' home provinces where firms operate (no provincial trade barriers), outside a firm's home province in China (with the presence of provincial trade barriers), and in overseas markets (with the presence of international trade barriers). We recognize that firms might have sales in within and/or beyond firms' provincial markets, and/or internationally, and based on the mix of firms' sales destinations, we categorize firms in four mutually exclusive types as follows. They are: *Provincial Firms* (sales only in firms' home provinces), *Domestic Firms* (sales outside firms' home provinces, with or without sales in its home province, but no exports), *Pure Exporters* (only exports but no domestic sales) and *All Sellers* (with both domestic and international sales). This categorization captures firms' domestic sales expansion beyond their home provincial borders and as well overseas. We utilize the multinomial logit method (MNL) model to capture firms' decision to be a particular firm type, given their status of access to external finance, in the presence of domestic and international trade barriers.

The focus of our study makes some novelty contributions to the literature. First, using China provides a great case study to better our understandings of the role of external finance in firms' sales expansion efforts, as access to financial loans in China in the early 2000s was still quite challenging. Second, examining firms' joint domestic and international sales expansion offers a complete picture of the barriers in firms' sales expansion, and compliments previous studies regarding external finance and Chinese firms' exports, including Du and Girma (2007), and Feenstra et al., (2014). Third, the approach here provides an alternative to the productivity effects regarding firms' sales behavior (Huang et al., 2015), and enrich our knowledge regarding firms' decision on their sales expansion.

We use the *China Investment Climate Survey* (2005) from the World Bank of 12,372 firms to inform our study. We find that access to financial loans significantly raises firms' odds to overcome trade barriers to sell their products both outside their home provinces in China, and in the international market; and that domestic trade barriers present as much a hurdle as international trade barriers. The effects of external finance to overcome both domestic and international trade barriers vary across firm ownership types of being state-owned firms, foreign owned and privately/collectively owned, reflecting their inherent

⁵ Gregory and Tenev (2001) pointed out that local governments encouraged bank lending to state-owned enterprises by extending explicit or implicit guarantees or through other means on one hand, and banks did not consider a bad loan to a state-owned enterprise to be as serious as a bad loan to a private enterprise on the other. This view seems to be supported by Chan et al., (2012), which find that political connection does matter for firms' access to bank loan; and show that politically-connected firms have better access.

⁶ Langlois (2001) refers to a survey of private firms conducted in 1999 by the International Finance Corporation (IFC). They locate in four provinces: Beijing, Chengdu (in Sichuan province), Shunde (in Guangdong province), and Wenzhou (in Zhejiang province). It finds that about 80% considered lack of access to external finance to be a serious constraint.

differences. The effects of access to financial loans increases with their perceived importance, reflecting the existence of inefficient allocation of bank loans in China. Further, the results here help uncover the pervasiveness of domestic trade barriers: access to external finance significantly increases the odds for firms to sell outside their home provinces even if they did not feel local protection and *more* for those if they did.

The remainder of the paper is organized as follows. Section 2 describes the data, Section 3 proceeds with the estimation method, Section 4 reports the main regression results, Section 5 conducts additional analyses and Section 6 concludes.

2. A Close Look at the Data

Data used in this study are taken from the *China Investment Climate Survey* (2005) conducted by the World Bank. The survey randomly chose 12,400 firms located in 120 cities: 100 firms in each city, but 200 firms in the four municipality cities (Beijing, Tianjin, Shanghai, and Chongqing). The survey collects firms' sales shares (not volume) within the city where they operate (*home city*), in other cities within the province where they operate (*home province*), outside their home provinces in China, and overseas. To highlight domestic and international trade barriers in firms' sales expansion, we group firms based on their sales across firms' provincial borders and international borders in four exclusive types. *Provincial Firms* (for short, *ProvFirm*): with sales only in firms' home provinces (including their home city and other cities within their home provinces). *Domestic Firms* (for short, *DomFirm*), with positive sales shares outside their home provinces, but no exports and with or without sales in their home provinces. *Pure Exporters* (for short, *PureExpFirm*): with positive sales shares only in international markets but no sales domestically in China. *All Sellers* (for short, *AllSeller*): with positive sales shares overseas, and positive sales shares in domestic destinations (either in their home provinces or other provinces in China or both).

Clearly, this categorization is progressive, and different firm *types* have different mix of its sales destinations. Here, *ProvFirm*, *DomFirm* and *AllSeller* firms can all have sales within their home provinces; *DomFirm* and *AllSeller* firms can both have sales outside their home provinces; and both *PureExpFirm* and *AllSeller* firms have exports. We retain 12,372 firms in the Survey which have the needed firm-level information for the study. Table 1 reports how the sample of firms fall into each category. Among all the firms, about 15% only sell within their home provinces—*ProvFirm*; 48% sell domestically beyond their home provinces, with or without sales in their home provinces—*DomFirm*; 7.70% as pure exporters—*PureExpFirm*; and 30% sell both at home and abroad—*AllSeller*. So, together, 38% of firms are exporters (*PureExpFirm* and *AllSeller*), which is higher than the exporter ratios reported in studies of some other countries (see Bernard and Jensen, 1995, for the US, for instance), which might reflect China's active participation in trade during the early 2000s, right after China's accession to the World Trade Organization.

The comparison of the number of firms in each category reflects firms' sales hierarchy, but with China's specialties. *ProvFirms* are typically small in nature on the one hand; and a province in China is quite large on the other (due to China's large geographical area). The next natural step is for firms to expand their sales domestically beyond their provincial borders to become *DomFirms*. Following domestic sales are international sales as *AllSeller* firms. The only exception to the sales hierarchy is pure exporters—*PureExpFirm*—(7.70%). Pure exporters are a special category in that they do not face the necessary trade costs associated with building new sales channels overseas, since, in China's case, pure exporters largely engage in processing trade, producing based on foreign customers' orders.

While mix of firms' sales destinations is illustrative of firms' sales hierarchy, here, we present an alternative using firms' sales shares in major destinations to also help highlight the existence of domestic and international trade barriers. They are shown in Table 2, the average sales shares across all firms. Firms' home provincial markets account for 44.1% of total sales in the sample, other provincial markets (domestic trade) 39.4%, and exports 16.5%. It is thus evident that firms' home provincial markets are the largest market in their sales portfolio, and the orderly decreasing sales shares from home provincial markets to other provincial markets, and then to international markets indicate well their sales hierarchy, presumably due to domestic and international trade costs. In addition, domestic trade is over two times as large as exports, a similar observation as in Wong (2012). However, the much larger flow of domestic trade might not necessarily indicate that firms face smaller domestic trade barriers, because firms' domestic trade flows could also be facilitated by the close psychic distances among China's provinces including political system, business culture and common language (Huang et al., (2015),⁷ which cross-border trade flows typically do not enjoy.

Regarding firms' access to external finance, the survey asks firms whether they had borrowed financial loans from banks and other financial institutions in the early 2000s. Among the 12,372 surveyed firms, 7,435 firms borrowed financial loans, accounting for about only 60%. Despite the earlier discussed borrowing difficulties for private owned firms, firms' access to financial loans is not significantly different among the different ownership types of State-owned enterprises (*SOEs*), foreign affiliates (*Foreign*) and privately or collectively owned (together as *Private*). The loan access rate is 61% for *Private* firms, 57% for *SOEs*, and about 58% for *Foreign* firms. The slightly higher rate for private firms than for other types presumably signals their greater need for loans than for other firms. We build a *loan* indicator variable which takes the value of 1 for firms which had financial loans during the surveyed period, and 0 otherwise.

⁷ The political closeness across provinces helps ease any trade barriers arising from different political ideologies, commonly found in the literature (Dajud, 2013; Decker and Lim, 2009; Michaels and Zhi, 2010; Sekkel, 2009); the universal language makes it much easier to conduct business across provincial borders rather than the often found language barriers impeding international trade flows (Egger and Lassmann, 2012; Melitz, 2008; Melitz and Toubal, 2011); the Confucius culture and many social norms are shared across the country, making a trade-facilitating factor in China (Cyrus, 2012). Finally, internal migration has been ongoing for decades in China, which has led to a great business network across the country, conducive to domestic goods flows (Mehanna, 2003; Rauch, 1999; Rauch and Trindade, 2002).

3. The Estimation Strategy

To model firms' choice to be one specific firm type among the four exclusive types with different (combinations of) domestic and international sales destinations, we introduce a framework based on firms' profits derived from their total sales. Let k denote each firm type. We then have $k \in K = \{1, 2, 3, 4\}$, with $k = 1$ for *ProvFirm* type; $k = 2$ for *DomFirm* type; $k = 3$ for *PureExpFirm* type and $k = 4$ for *AllSeller* type. Given firms' status of access to external loans, if a firm chooses type $j \in K$, then profits derived from type j are assumed to be higher than from any one of the other available types. That is:

$$\Pi^j(x_0, z) > \Pi^k(x_0, \text{loan}, z), j \neq k, \text{ and } j, k \in \{1, 2, 3, 4\} \quad (1)$$

Where Π indicates profits, which depend on firm characteristics (x_0), access to financial loans (*loan*) and other factors (z). Let ε be an idiosyncratic term and $X = (x_0, \text{loan}, z)$, then, a firm's profit by being k type is:

$$\Pi^k(x_0, z) = \beta'_k X + \varepsilon_k \quad (2)$$

For our empirical investigation, we apply the multinomial logit method (MNL) to capture firms' multiple choices, with *ProvFirm* ($k = 1$) as the base category. The MNL model is:

$$P(K = k) = \frac{\exp(\beta'_k X)}{1 + \sum_{k=2}^4 \exp(\beta'_k X)} \quad (3)$$

The beauty of MNL model specifies well the multiple choices firms face, but it is not straight forward to interpret the estimated coefficients on firms' decision to be a specific firm type. Researchers tend to derive relative-risk ratios (*rrr*) from the MNL estimations and instead interpret the *rrr*. The *rrr* captures the comparison of the odds between choosing type j and the base type. To see this, we illustrate the point below. For instance, for firm type j , the $rrr_{j/1}$ for vector X , compared with the base firm type ($k=1$, *ProvFirm*), is:

$$rrr_{j/1} = \frac{P(K=j|X+1)/P(K=1|X+1)}{P(K=j|X)/P(K=1|X)} \quad (4)$$

Interpretation of *rrr*, for instance, $rrr_{2/1}$, is as follows. Compared with *ProvFirm* (the base type, $k=1$), one unit increase in X will lead to the relative odds of firms choosing *DomFirm* type ($k=2$) $rrr_{2/1}$ times what it was before. Thus, a greater than unity value of $rrr_{2/1}$ indicates that increase in X leads to a higher probability to choose *DomFirm* type than to choose the base type, *ProvFirm*, and vice versa. The application of MNL and thus the interpretation of the *rrr* rests on the independence of irrelevant alternatives assumption (IIA). The IIA assumption requires that the choice of any option does not affect the relative probability of choosing other options. In the empirical analysis, we use the Hausman test to test the IIA assumption (Hausman and McFadden, 1984).

Our data are cross-firm. In the cross-firm specification, variations in firms' access to financial loans across firms explain firms' different decision to be a specific firm type, after controlling firm-level attributes. In lieu of the previous findings in the literature, we control a

stock of firm-level variables, which would eliminate other factors' role in firms' sales expansion. The first one is firm size, for which we use firms' core business revenue in logs— $\ln(\text{Scale})$, as larger firms might have the additional resources to overcome trade costs and sell beyond their home provinces domestically and overseas as found the literature such as Bernard and Jensen (1995). Firm productivity—sales revenue per worker in logs, $\ln(\text{Sales}/L)$ —is to capture the productivity effects, as more productive firms are found to be able to absorb some additional trade costs for both domestic and international trade (Huang, et al., 2015). Firms' capital labor ratio in logs— $\ln(K/L)$ is to capture the role of firms' technological complexity, where K is firms' net fixed capital; and the ratio of R&D expenditure over total sales— $RD/Sales$ —is to capture the effects of firms' innovation efforts. Both variables are to control the nature of China's exports—they are often portrayed as low-technology and exporting firms as low R&D inputs. We control firms' business experience by including firm age—*Age*. Further, as often found in China-related studies, there are inherent differences among firms across ownership types, and these ownership specific effects would be captured by including ownership indicators of *Private* (for privately and collectively owned firms), *SOE* (for state-owned ones), and *Foreign* (for foreign affiliates). In the main regressions, we also different foreign affiliates between investors from Hong Kong, Macao and Taiwan (*HMT*), and *Other Foreign* (from other foreign sources) to control any fixed differences between the two sources, as *HMT* investors might know the Chinese culture better than other foreign investors and might enjoy certain advantages in their domestic sales expansion. Finally, in China, products from different industries/regions have enjoyed unequal access to overseas markets given China's comparative advantage in exports, and regions' different development stages of the necessary infrastructure network. We thus include industry and city binary variables to capture the inherent industry and location effects.

4. The Estimation Results

4.1 The Baseline Results

Table 3 reports the baseline results. The Hausman test statistics indicates that the IIA assumption in the MNL model is satisfied in our case.⁸ Below, we explain the results from the main variables.

Loan—the *rrr* coefficient is significantly larger than 1. They indicate that with financial access, firms' odds to be *DomFirm*, or *PureExpFirm*, or *AllSeller*, compared with the odds to be the base type of *ProvFirm*, are significantly larger than those without financial access. Specifically, with financial loans, firms have 1.647 times the odds to choose *DomFirm* as the odds to be *ProvFirm*; 1.262 times the odds to choose *PureExpFirm*; and 2.313 times the odds to choose *AllSeller*. The coefficients allow us to draw a few conclusions. First, having access to financial loans increases firm' odds to become exporters, either as pure exporters, or as

⁸ We also used the Small-Hsiao test and reach similar conclusion of failing to reject the independence of the irrelevant alternatives hypothesis.

exporters with domestic sales. This is consistent with some earlier findings in the literature (Svaleryd and Vlachos, 2002; Svaleryd and Vlachos, 2005; Do and Levchenko, 2007; Minetti and Zhu, 2011; Manova, 2013), and echoes those for China's case (Du and Girma, 2007; Feenstra et al., 2014). Second, access to financial loans significantly increases firms' odds to sell outside firms' home provincial markets—by choosing to be *DomFirm* or *AllSeller* firms. Third, the magnitudes of the coefficients suggest that domestic trade barriers are significant hurdles for firms in intra-national trade, despite the close psychic distances across provincial borders arising from the same set of rules of law, same official language and similar culture (Huang et al., 2015). Further, the magnitudes of the *rrr* coefficients on firms' odds to choose *DomFirm* over *ProvFirm* are significantly larger than that to choose *PureExpFirm*; and are the highest to choose *AllSeller*. They unequivocally suggest that there exist domestic and international trade barriers, and access to external finance allows firms to overcome fixed trade costs arising from these trade barriers. But the magnitudes of the coefficients do not allow us to interpret that domestic trade barriers are *higher* than international trade barriers, if we only focus on the coefficients on *DomFirm* and *PureExpFirm*, thanks to the specialty of pure exporters in China. Because, a great proportion of pure exporters are engaged in global production chains in terms of processing trade; and a fairly large fraction of pure exporters are foreign affiliates. In both cases, the fixed costs of setting up overseas trading channels are not as high as ordinary exporters, if there are any.

Moving to firm-level control variables, our results both confirm those in the literature and also reveal China's specialties regarding pure exporters. The *rrr* coefficient on firm size, $\ln(\text{Scale})$, is significantly larger than 1, indicating that larger firms are more likely to expand their sales across China and in the international markets by choosing to be *DomFirm*, *PureExpFirm* or *AllSeller* firms, than to be *ProvFirm*, the base type. This is consistent with the often reported size effect in the trade literature (Bernard and Jensen, 1995). Here, productivity effects ($\ln(\text{Sales}/L)$) on firms' choice to choose other types are somewhat smaller, which mirrors the findings in Lu (2010) which finds that there is no exceptional productivity performance for China's exporters.⁹ Increases in firms' capital-labor ratio significantly raise firms' odds to choose to be *DomFirm* and *AllSeller* over the base firm type, but not for *PureExpFirm*. This is because, as we mentioned earlier, that many pure exporters in China often engage in processing trade which are low-tech processing and/or assembling activities. Increases in RD/Sales ratio raise firms' odds to choose *DomFirm* type or to choose *AllSeller* type over the base firm type, but also not to be *PureExpFirm*. Firm experiences (*Age*) do not appear to be an important factor with a coefficient not significantly different from 1, which signals that firms' experiences in business not be a factor in influencing their decision in sales, given the presence of rich firm-level controls.

For firms' ownership types, compared with the base type of SOEs, *ceteris paribus*, all other ownership type firms have higher odds of becoming *DomFirm*, *PureExpFirm* and *AllSeller*. This apparent discrepancy has more to do with firms' inherent differences across

⁹ The specialty of pure exporters in China is also manifested by their productivity pattern. Lu (2010) finds that there is no productivity premiums associated with exporters in China, with more than half of China's exporters exporting most of their output.

these ownerships, which we analyze in detail shortly after in the next subsection. There are higher odds for *HMT* and *Other Foreign* affiliates to choose to be *DomFirm*, *PureExpFirm* and *AllSeller* over the base firm type, than for *Private*. This might imply that the objectives of some foreign affiliates in China are to serve the domestic Chinese market, or to use China as an export platform due to its abundant and relatively skilled labor.

4.2 Correcting Endogeneity of Getting Financial Loans

The baseline results indicate that access to financial loans allows firms to overcome both domestic and international trade costs and thus can sell both domestically and internationally beyond their home provinces. However, it could be argued that banks might know firms' market sales potential and then decide to loan them. In turn, with financial loans, firms then have some comparative advantage in relaxing their liquidity constraints and develop better sales channels to advance their sales. This is theoretically sound, but practically difficult, as it is hard to imagine that banks could have accurate potential analysis on firms. If there is any causality here, we would expect it to be minor. But nonetheless, we choose to correct this potential endogeneity using instrumental variables (IVs).

We choose to use two firm-level indicators, and one industry-level variable as IVs. At the firm-level, one is workers' share with frequent computer usage (*Computer*), and the other is whether there are fitness facilities in the firm (*Fitness*). Firms with a higher share of workers with frequent usage of computers signal that those firms have a higher percentage of skilled labor force, which might signal their resilience in dealing with more difficult situations, and banks might refer to this to evaluate firms' chance of granting financial loans. Firms' fitness facilities indicate firms' mindset to promote a healthy workplace by also avoiding sick leaves. A healthy workplace can signal to the financial institutions as firms' potential to grow. Beyond firm-level information, we also compute industry-city mean loan ratio (*meanloan*)—the share of firms in an industry-city pair which borrowed financial loans over all firms operating in that city-industry. This is motivated by industry's specific reliance on external financial loans to function and grow, as some industries are more dependent on financial loans than others, and also regions' variation in their ability to lend loans. This mean industry-city loan ratio implies the general easiness/difficulty for getting loans in a city-industry, and reflective of firms in industry-city's reliance on external loans, and will be predictive of a firm's chance to get one.

Given our non-linear nature of the empirical investigation, we adopt a two-step procedure as suggested in Hilbe (2011) with the IVs. In the first stage, we use OLS to regress the *loan* indicator on the IVs and all other exogenous variables to get the predicted values of *loan*, denoted as *IVloan*. In the second step, we use *IVloan* in the MNL estimation. In the empirical analysis, we test these IVs' validity with the criteria proposed by Cameron and Trivedi (2009) to test the joint significance of the instruments. "One commonly used diagnostic is, therefore, the F statistic for joint significance of the instruments. ... A widely used rule of thumb suggested by Staiger and Stock (1997) views an F statistics of less than 10 as

indicating weak instruments” (Cameron and Trivedi , 2009: P190). We conduct this test in all the relevant empirical regressions, and report the associated F-test statistics.

The first-step results are reported in Table 4. The three IVs significantly explain firms’ possibility of getting financial loans; and the F-test rejects the hypothesis that the IVs are weak. We then use the predicted value of *loan*, *IVloan*, in the second stage regression, with results in Table 5.

The coefficients of *rrr* on firms’ choices to be *DomFirm*, *PureExpFirm* and *AllSeller* from *IVloan* (Table 5) are in close proximity from variations on *loan* (Table 3). So are the cases for firm-level controls. For instance, the *odds* to be *AllSeller* is 2.166 times the base type with financial loans than without from IV correction; and it is 2.128 times from *loan*. This allows us to conclude that firms’ access to external financial loans might be subject to endogeneity, but the bias is not a major concern. But still, in the remaining analysis, we choose to use the IV corrected *IVloan* variable, obtained from the first stage regressions for the rest of the analyses.¹⁰

4.3 Heterogeneity across Firm Ownership Types

The baseline results across firm ownership dummies present significant differences in their roles affecting firms’ choices to sell domestically or overseas by choosing a specific firm type. Ownership dummies, as expected, can capture fixed effects associated with *SOEs*, *Foreign* and *Private* firms. But what if the effects vary across firm ownership lines? This warrants further investigation, especially with the Chinese context with widely reported differences across firm ownership structures. Examining this issue could explore whether the inherent firm differences across ownership types would manifest into different ways regarding their choice for a specific firm type, with and without financial access. Since coefficients on *HMT* and *Other Foreign* lead to similar conclusions, we would pull them together as one group, *Foreign*.

There are two ways to proceed econometrically: one is to include additional interaction terms in the whole sample between ownership dummies and the *IVloan* variable, and the other is to split the sample into three subsamples according to firms’ ownership types. Either way has its advantages and shortcomings. Coefficients obtained from the whole sample regressions are easier for comparison across firm *ownership* types, but a weakness is that the base group firms in the whole sample still consists of firms with all *ownership* types. That would cloud the interpretation the effects of access to external finance *within* each firm ownership type. Sample splitting along firm *ownerships* would allow straight interpretation of access to financial loans *within* each firm ownership type, but across firm *ownership* comparison needs more econometric testing *among* regressions. Here, we are interested in the effects of financial loans on firms’ choices to sell domestically and/or internationally, not

¹⁰ We also run the regressions for all the following analyses using the *loan* indicator itself, and they produce similar results. The results are available from the authors upon request.

only *across* firm ownership types, but also *within* each ownership type. To that end, we choose the second method and split the whole sample into three subsamples consisting, respectively, SOEs, *Private* firms and *Foreign* affiliates. We thus run three parallel regressions, including all firm-level controls, and industry and city fixed effects. To focus on the effects of *IVloan* and comparison across firm ownership types, we choose to report only the coefficients on the *IVloan* variable, in Table 6 for brevity. We first look at results *within* each ownership type, and then compare *across* ownership types.

For SOEs, access to financial loans does not increase their odds to choose to be *DomFirms*, or to be *PureExpFirms*, or to be *AllSellers*, over the base firm type, despite the existence of both domestic and international trade costs. The results indicate that having access to financial loans is not a deterministic factor in SOEs' decision to choose to sell outside their home provinces or internationally over serving their home provincial markets. The findings here are not completely surprising, and echo those in Huang et al. (2015) where productivity effects to overcome provincial barriers are not significant for SOEs. The results might be partially explained by SOEs' special relationships with local or central governments being investors.¹¹ With (local) governments as the largest shareholders, SOEs are often burdened with undue social responsibilities and other constraints, though at the same time, they might also enjoy some special advantages in other aspects, such as getting loan approvals faster. The unnecessary burdens might tie their hands such as laying off surplus workers, which hinders firms' productivity, not conducive for their sales expansion. But the special connections might help them get easy access to bank loans and smooth the barriers across provincial borders. As a net result, access to financial loans is not effective in predicting SOEs' sales expansions, both domestically and internationally.

For *Foreign* affiliates, the results indicate that access to financial loans is significant in increasing firms' odds to sell either domestically in China outside their home provinces (*DomFirm* type), or both domestically in China and overseas (*AllSeller* type). But it is not a significant factor in foreign affiliates' choice to be pure exporters (*PureExpFirm*), which is due to the processing trade nature of pure exporters in China, especially for foreign affiliates. The very close coefficients of *rrr* for *DomFirm* and for *AllSeller* over the base type imply that access to financial loans are very conducive for foreign affiliates to overcome domestic trade barriers in China (*DomFirm* and *AllSeller*), but not necessarily international trade barriers (*AllSeller*). That is because international trade barriers are generally small for foreign affiliates as they could rely on the existing sales channels of their overseas parents.

Private firms operating in China are the closest to the typical firm type analyzed in the trade literature. They do not have special relationships with any layers of the governments as SOEs enjoy on the one hand, nor any existing foreign sales channels as foreign affiliates have on the other. The results here indicate that having access to financial loans significantly

¹¹ State-owned enterprises, though often clustered together, actually belong to different layers of "state", as they can be central governments, provincial governments and/or city-level governments.

increases their odds to choose *DomFirm*, or *PureExpFirm*, or *AllSeller* firms over *ProvFirm*, by overcoming the fixed costs arising from either domestic or international trade barriers. The magnitudes of the coefficients lend support to differentiate domestic and international trade barriers by highlighting firms' mix of their sales expansions, and they imply the extent of domestic trade barriers, despite the close psychic distances across China's provinces.

Comparing the coefficients *across* the three parallel regressions, the test statistics rejects the hypothesis that coefficients are equal. From the magnitudes of the coefficients, we can conclude that access to financial loans significantly increases the odds the most for *Private* firms to choose *DomFirm* over the base firm type, followed by *Foreign* affiliates, but no effects for SOEs. The same holds for firms' odds to be *AllSeller* over the base type. But the odds to choose to be *PureExpFirm* are only significantly higher for *Private* firms. The results not only highlight the significant effects of access to financial loans to enable firms to overcome both domestic and international trade costs, but also shed light on the inherent differences among firms of different ownership types.

5 Robust Analyses

5.1 The Degree of Financial Constraint

As the data show, not all firms got access to external financial loans (thus there are variations across firms), as getting access to external finance is often a challenge in China especially at the time studied. That might propel firms to constantly work on getting financial loans, regardless whether they need a loan or not at the time. On the extreme, it could be cases that some firms might have obtained loans, not completely based on the practical necessity, but through their network ability. This obviously would lead to some inefficient allocations of financial resources, as corroborated in findings in a few studies (Allen et al., 2005; Guariglia and Poncet, 2008; Cull et al., 2009; Huang et al., 2015). Although the data do not indicate significant differences in the ratios of getting loans across the three ownership types, they might not adequately reflect firms' real needs for financial loans, especially in lieu of Langlois (2001)'s findings that about 80% of private firms considered lack of access to external finance to be a serious constraint.

Given this context, the World Bank survey follows up with a question asking importance of the loan once they have obtained one. Among the 7,435 firms with financial loans, 1,981 firms (accounting for 27%) thought the financial loan was *not* important, 3,441 firms (accounting for 46%) believed it was *somewhat* important, and only 2,013 firms (accounting for 27%) believed it was *very* important.

In lieu of our argument that financial loan helps firms relax their liquidity constraints and overcome trade costs to advance their domestic and international sales, then the effects of financial loans would be larger for those firms if they deem the loans are important than for those they think otherwise. Further, along with the previous evidence of the difficulty faced by private firms, we would suspect that the estimated effects of financial loans for them to

advance their sales would be different, not only across the perceived loan importance, but also across firm ownership types.

To empirically test these hypotheses, we combine “very important” and “somewhat important” as one group of being “important” to be on the conservative side. We then build an indicator “*Importance*” for these loans, and include an additional interaction term of *loan* with *Importance*. While *IVloan* alone captures the base results of access to financial loans, the coefficient on *loan*Importance* captures the additional effects for the deemed important ones. We follow the previous strategy to first look at the differences for the total sample, and then further highlight the differences across firm ownership types by running parallel regressions respectively for SOEs, *Foreign* affiliates, and *Private* firms. The associated results are reported in Table 7, again with *IVloan* as the explanatory variable.

In the whole sample, in addition to including industry type and location fixed effects and firm-level covariates, as in subsamples, we also control for fixed effects arising from firm ownership type. The coefficients on *IVloan* alone seem to suggest no effects, however, the coefficients on *IVloan*Importance* indicate that the deemed important financial loans significantly increase firms’ ability to overcome both domestic and international trade costs so that firms choose to be *DomFirm*, *PureExpFirm* or *AllSeller*.

Across firm ownership types, our results are even more telling. For SOEs, access to financial loans significantly increases their odds to become *DomFirm* and *AllSeller* firms, but only if the loans are deemed important. This seems to be reconciliatory with earlier findings in the paper. It is not that access to financial loans generates no significant effects on SOEs’ sales expansion both domestically and internationally, but rather, that result is driven by those unimportant loans.

For *Foreign* affiliates, the coefficients of *rrr* on *IVloan* and *IVloan*Importance* unequivocally imply that access to financial loans significantly enables foreign affiliates to overcome domestic trade barriers so that they can advance their sales domestically by increasing their odds to be *DomFirm* or *AllSeller* type. In addition, if they deemed that financial loans are important, the effects from the loans are much larger across the board for their odds to choose to be *DomFirm*, or *AllSeller* than those firms which think otherwise. These results once again suggest that domestic trade barriers present great hurdles for foreign affiliates in their endeavor to advance their sales within China, and the perceived important loans generates larger effects.

For *Private*, even if the loans are not deemed as important, they are still significant in increasing firms’ odds to choose to be *DomFirm*, *PureExpFirm* or *AllSeller*, and the effects are significantly much larger if the loans are deemed important. This indicates that the tremendous trade barriers which *Private* firms face, both domestically and internationally, and the general financial constraint they face.

Comparison of the results *across* ownership types returns similar findings, and reinforces the main conclusions that access to external finance generates the largest odds for *Private*

firms to overcome both domestic and international trade barriers; and the more important the loans, the larger the odds.

5.2 Pervasiveness of Local Market Protection

We have argued throughout the paper the pervasiveness of the existence of provincial trade barriers in China. However, China's local market protection, unlike international trade barriers, is hard to quantify, as they often take covert forms so not to be detected easily. Although not overt, its existence can, by part, be also mirrored by the continuous efforts by the Chinese central government. As recently as in the 2015 government report, the Chinese central government has once again emphasized the importance of fostering an integrated domestic market. Given this context, the World Bank survey followed up with a question asking firms whether they had *experienced* or *felt* local protectionism in their domestic sales expansions beyond their provincial borders. If, as we have argued, entry barriers across provincial borders are prevalent, then financial loans would help firms overcome these barriers regardless whether they *felt* them or not, and it would be larger for those firms who indeed *felt* trade barriers. For the 5,910 firms with sales outside their home provinces, 2,479 firms said yes, and 3,431 firms answered no.

Following the spirit of the earlier analyses, we split *DomFirm* firms into *DomFirm+* and *DomFirm-* to highlight their experiences of local protection, with "+" for having experienced/felt local protection, and "-" otherwise. We carry out the analyses first for the whole sample to get a broad picture, and then for each ownership type. Across firm ownership types, we again have three subsamples as SOEs, *Foreign* affiliates and *Private* firms, because different firm ownerships often exhibit various patterns in their domestic sales expansion. In all the regressions, we include firm-level controls as well industry and city specific indicators, and firm ownership dummies in the pooled sample. These second-stage results are reported in Table 8.

First, even pooling all firms together, access to financial loans significantly increases firms' odds to choose to be *DomFirm*, or *PureExpFirm* or *AllSeller*, over the odds to be the base type, even if firms did not feel local market protection. And the associated odds are significantly larger than for *DomFirm+* than for *DomFirm-*. The results indicate not only the pervasiveness of domestic trade barriers, and the importance of access to financial loans in firms' decision to sell beyond their provincial borders.

Across firm ownership types, statistical tests lead to rejection of the hypotheses that the coefficients are equal across these parallel regressions. Below, we discuss the results for each ownership type in turn.

For SOEs, financial loans indeed significantly increase the odds to be *DomFirms*, but only for those which felt local market protections. This also implies the limitations of the special relationship between SOEs and local governments in their role regarding domestic trade costs. Combined with earlier findings regarding the importance of financial loans, we

can conclude that, even for SOEs, when they felt the discrimination in advancing sales beyond their home provinces, or when they felt financially constrained, access to financial loans allows them to overcome domestic trade barriers for their sales expansion.

For *Foreign* affiliates and for *Private* firms, the odds are significantly larger to be *DomFirm+* than to be *DomFirm-*. Comparison *across* the three ownership types reveals similar observations as before, that access to financial loan generates the largest effects for *Private* firms, followed by *Foreign* affiliates, and the lowest for SOEs in their sales expansion domestically.

5.3 External Finance, Sunk Costs and Firms' Sales Shares

Throughout the paper, we have argued and shown that access to financial loans can help firms overcome (fixed) trade costs to advance their sales domestically and internationally. Along that line of argument, then access to financial loans does not necessarily lead to sales increase in these destinations especially in the short time period, i.e., not necessarily in helping firms decrease their variable costs, because that relates more with firm's production technology and process, often a result of long-term efforts. Further, sales increase can also be caused by many factors such as better quality product, and more skilled sales personnel (Huang et al., 2015).

The survey collected firms' sales shares in the city where they operate (*cityshare*), in other cities within their home provinces (*outcityshare*), in other provinces (*outprovshare*) and in the international market (*expshare*). This four-tier sales hierarchy offers an ideal case to examine the role of financial loans in overcoming fixed trade costs, not the variable costs. We use firms' sales shares in their home city, *cityshare*, as the base; and then examine whether access to financial loans *increases* firms' sales shares in other shares within their home province (*outcityshare*), in other provinces (*outprovshare*) and in the international market (*expshare*). If our argument is valid, then we would find no significant increase in the sales outside firms' home cities, even with access to external finance.

These four shares add up to 1 for each firm. Econometrically, we adopt a fractional multinomial logit model (fractional MNL), specified in Papke and Wooldridge (1996), to estimate the effects. Here, we also correct the potential endogeneity by utilizing a two-stage regression method. The second stage results are reported in Table 9.

The new results show that access to financial loan does not significantly increase firms' sales shares in other cities within the same province (*outcityshare*), nor in other provinces in China (*outprovshare*), nor in the international markets (*expshare*). These results clearly suggest, at least in the short run, that, access to financial loans is not helpful in increasing the extensive margin of sales. Combined with our earlier findings, the results indicate that access to financial loans helps firms overcome the fixed trade costs by setting up sales channels.

6 Concluding Remarks

In the presence of trade barriers, either domestic or international, setting up sales channels overseas requires firms to commit a good amount of capital upfront before they could begin sales. That presents a challenge for many firms if they do not have that financial liquidity, and access to financial loans might provide certain advantage for firms. The paper examines the effects of access to external finance for firms to overcome the fixed costs arising from both domestic and international trade barriers to advance their sales, by utilizing a detailed survey by the World Bank of 12,272 firms operating in China. Using Chinese firms' sales experiences offers a few distinct perspectives to the literature. China is a large developing country with ongoing (and changing) economic reforms to transform its planned economy to a market-oriented economy, which has inadvertently helped create trade barriers across provincial borders, though often in covert forms. Also, China's financial market development lags behind its economic reforms in many other sectors, and many loans allocations are rendered to be inefficient. Further, firms operating in China consist of different ownerships of state-owned (SOEs), foreign owned (Foreign) and privately or collectively owned (Private), and more importantly, these firms vary systematically regarding their relationships with local governments, and their overseas sales channels across the ownership line. Within this background, we examine the effects of access to financial loans on firms' sales expansion within China and internationally by differentiating firms' sales beyond their home provincial borders to examine the existence of domestic and international trade barriers.

We categorize firms in four exclusive groups depending on the mix of their sales destinations: *Home Firms*—with sales only in their home provinces; *Domestic Firms*—with sales outside their home provinces, with or without sales in firms' home provinces, but no exports; *Pure Exporters*—only exports (no domestic sales); and *All Sellers*—with domestic (within and/or beyond firms' home provinces) and international sales. The effects of access to financial loans to overcome trade barriers are captured in firms' decision to choose to be a particular firm type, with a multinomial logit method. We find that access to financial loans significantly raises firms' odds to overcome domestic trade barriers to sell their products outside their home provinces in China, and international trade barriers to sell in overseas markets. The magnitudes of domestic trade barriers are found to be as much a hurdle for firms as international trade barriers. The effects of external finance to overcome trade barriers vary across firm ownership types: the effects of access to financial loans are much larger for *Private* firms, followed by those for *Foreign* affiliates, and somewhat effective for SOEs. Given the context of some inefficient financial loans, we find that, the effects of the deemed important financial loans are much larger than those deemed not important. Further, to uncover the most hidden domestic trade barriers, we split the sample according to firms' experiences, and show that access to external finance significantly increases the odds for firms to sell in other provincial markets, but more so for those which felt/experienced local protection.

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Table 1: Firms and Their Sales Hierarchy

Type of Firms	Definition	No. of firms	Share in total number of firms (%)
Non-exporters	<i>ProvFirm</i> (<i>Provincial Firms</i>)	Sales only in firms' home provinces	1,811 14.64
	<i>DomFirm</i> (<i>Domestic Firms</i>)	Sales outside firms' home provinces, with or without sales in firms' home provinces	5,899 47.68
Exporters	<i>PureExpFirm</i> (<i>Pure Exporters</i>)	Exports only	950 7.68
	<i>AllSeller</i> (<i>All Sellers</i>)	Exports plus domestic sales (either within and/or beyond home provinces)	3,712 30.00
Total		12,372	100

Source: Authors' own calculations.

Table 2: Distribution of Firms' Sales Shares

	Home Provinces	Outside Home provinces	International Markets
Types of firms active	<i>ProvFirm</i> <i>DomFirm</i> <i>AllSeller</i>	<i>DomFirm</i> <i>AllSeller</i>	<i>PureExpFirm</i> <i>AllSeller</i>
Sales shares in firms' total sales (%)	44.1	39.4	16.5

Source: Authors' own calculations.

Table 3: The Baseline Results

Variables	<i>DomFirm</i>	<i>PureExpFirm</i>	<i>AllSeller</i>
<i>Loan</i>	1.506*** (0.098)	1.329*** (0.145)	2.128*** (0.165)
<i>ln(Scale)</i>	1.476*** (0.041)	2.019*** (0.087)	2.566*** (0.082)
<i>ln(Sales/L)</i>	0.806*** (0.033)	0.507*** (0.034)	0.493*** (0.024)
<i>ln(K/L)</i>	1.071*** (0.026)	0.827*** (0.033)	1.139*** (0.034)
<i>Age</i>	0.998* (0.001)	0.999 (0.001)	0.997** (0.001)
<i>RD/Sales</i>	1.111*** (0.021)	1.023 (0.032)	1.148*** (0.022)
<i>Private</i>	1.546*** (0.167)	2.163*** (0.576)	2.143*** (0.277)
<i>HMT</i>	1.427** (0.248)	10.210*** (3.086)	3.768*** (0.725)
<i>Other Foreign</i>	2.339*** (0.453)	35.101*** (10.962)	10.644*** (2.199)
<i>Industry Fixed Effects</i>	Yes	Yes	Yes
<i>City Fixed Effects</i>	Yes	Yes	Yes
IIA test	Prob>chi2 = 1.000		
Observations	12,372		
Adj. R ²	0.267		

Note: ***, ** and * denote 1%, 5% and 10% significance level respectively.
Values in parentheses are standard errors.

Table 4. First Step of IV Regression

Variables	coefficient
<i>Computer</i>	0.001** (0.000)
<i>Fitness</i>	0.026*** (0.009)
<i>MeanLoan</i>	0.893*** (0.023)
<i>ln(Scale)</i>	0.076*** (0.003)
<i>ln(Sales/L)</i>	-0.061*** (0.005)
<i>ln(K/L)</i>	0.044*** (0.003)
<i>Age</i>	0.000 (0.000)
<i>RD/Sales</i>	0.003** (0.001)
<i>Private</i>	0.088*** (0.014)
<i>HMT</i>	0.046** (0.020)
<i>Other Foreign</i>	0.005 (0.019)
<i>Industry Fixed Effects</i>	Yes
<i>City Fixed Effects</i>	Yes
Observations	12,372
Adj. R ²	0.269
F-test	29.60

Note: ***, ** and * denote 1%, 5% and 10% significance level respectively. Values in parentheses are standard errors.

Computer is the ratio of staff regularly using computers. *Fitness* is a dummy variable indicating whether there are any fitness facilities in the firm. *Meanloan* is share of firms in a city-industry which had obtained financial loans in the sample period.

Table 5: The Main Results with IV Correction of Endogeneity

<i>Variables</i>	<i>DomFirm</i>	<i>PureExpFirm</i>	<i>AllSeller</i>
<i>IVloan</i>	1.762*** (0.364)	1.297 (0.461)	2.166*** (0.523)
<i>ln(Scale)</i>	1.452*** (0.048)	2.061*** (0.106)	2.547*** (0.096)
<i>ln(Sales/L)</i>	0.816*** (0.035)	0.508*** (0.035)	0.497*** (0.025)
<i>ln(K/L)</i>	1.063** (0.028)	0.829*** (0.035)	1.139*** (0.036)
<i>Age</i>	0.999* (0.001)	0.999 (0.001)	0.997** (0.001)
<i>RD/Sales</i>	1.116*** (0.021)	1.028 (0.032)	1.153*** (0.023)
<i>Private</i>	1.530*** (0.168)	2.168*** (0.583)	2.141*** (0.280)
<i>HMT</i>	1.414** (0.246)	10.122*** (3.061)	3.724*** (0.713)
<i>Other Foreign</i>	2.350*** (0.454)	35.158*** (10.962)	10.595*** (2.180)
<i>Industry Fixed Effects</i>	Yes	Yes	Yes
<i>City Fixed Effects</i>	Yes	Yes	Yes
IIA test	Prob>chi2 = 1.000		
Observations	12,372		
Adj. R ²	0.264		

Note: ***, ** and * denote 1%, 5% and 10% significance level respectively.

Values in parentheses are standard errors. *IVloan* is IV-corrected first-stage results for the *loan* indicator.

Table 6. Loan Effects across Firms' Ownership Types

Results for the Subsample of SOEs			
	<i>DomFirm</i>	<i>ExpPureFirm</i>	<i>AllSeller</i>
<i>IVloan</i>	1.166*	0.297	1.580
	(0.631)	(0.494)	(0.990)
Observations		1118	
Adj. R ²		0.247	
Results for the Subsample of Foreign Affiliates			
	<i>DomFirm</i>	<i>ExpPureFirm</i>	<i>AllSeller</i>
<i>IVloan</i>	3.205**	0.399	3.086**
	(1.773)	(0.230)	(1.689)
Observations		2381	
Adj. R ²		0.177	
Results for the Subsample of Private/Collective Firms			
	<i>DomFirm</i>	<i>ExpPureFirm</i>	<i>AllSeller</i>
<i>IVloan</i>	4.751***	4.425***	9.176***
	(0.851)	(1.599)	(2.009)
Observations		8873	
Adj. R ²		0.181	

Note: ***, ** and * denote 1%, 5% and 10% significance level respectively. Values in parentheses are standard errors. In each subsample, the estimation includes all other firm-level controls, in addition to the industry and city indicators, not reported for brevity.

Table 7: Loan Effects Vary With Its Importance

<i>Whole Sample</i>			
<i>Variables</i>	<i>DomFirm</i>	<i>ExpPureFirm</i>	<i>AllSeller</i>
<i>IVloan</i>	0.949*** -0.227	0.828** -0.337	0.528** -0.15
<i>IVloan*Importance</i>	1.903*** (0.227)	1.570** (0.301)	3.629*** (0.504)
Observations		12,372	
Adj. R ²		0.267	
<i>Subsample of SOEs</i>			
<i>Variables</i>	<i>DomFirm</i>	<i>ExpPureFirm</i>	<i>AllSeller</i>
<i>IVloan</i>	0.858* (0.501)	1.976 (3.228)	0.636 (0.459)
<i>IVloan*Importance</i>	1.189*** (0.437)	1.169 (1.073)	2.267** (0.984)
Observations		1,118	
Adj. R ²		0.159	
<i>Subsample of Foreign Affiliates</i>			
<i>Variables</i>	<i>DomFirm</i>	<i>ExpPureFirm</i>	<i>AllSeller</i>
<i>IVloan</i>	3.208* (1.985)	0.7 (0.441)	1.790* (1.084)
<i>IVloan*Importance</i>	1.064** (0.413)	0.699** (0.284)	1.253*** (0.479)
Observations		2,381	
Adj. R ²		0.133	
<i>Subsample of Private & Collective Firms</i>			
<i>Variables</i>	<i>DomFirm</i>	<i>ExpPureFirm</i>	<i>AllSeller</i>
<i>IVloan</i>	2.630*** (0.513)	6.546*** (2.757)	2.496*** (0.637)
<i>IVloan*Importance</i>	1.809** (0.223)	1.951*** (0.471)	3.807*** (0.577)
Observations		8,873	
Adj. R ²		0.135	

Note: ***, ** and * denote 1%, 5% and 10% significance level respectively. Values in the parentheses are standard errors. *IVloan*Important* is the interaction term of predicted values of the *loan* indicator and a dummy variable *Important* indicating its perceived importance by firms. In all regressions, firm-level controls, industry and city fixed effects are included.

Table 8. Loan Effects and Firms' Experience of Local Market Protection

Whole Sample				
Variable	<i>DomFirm-</i>	<i>DomFirm+</i>	<i>PureExpFirm</i>	<i>AllSeller</i>
<i>IVloan</i>	3.333*** (0.568)	5.041*** (0.928)	1.343*** (0.339)	6.849*** (1.281)
Observations	12,372			
Adj. R ²	0.185			
Subsample of SOEs				
Variable	<i>DomFirm-</i>	<i>DomFirm+</i>	<i>PureExpFirm</i>	<i>AllSeller</i>
<i>IVloan</i>	0.782* (0.423)	1.229* (0.669)	2.206 (2.978)	1.601* (0.921)
Observations	1,118			
Adj. R ²	0.132			
Subsample of Foreign Affiliates				
Variable	<i>DomFirm-</i>	<i>DomFirm+</i>	<i>PureExpFirm</i>	<i>AllSeller</i>
<i>IVloan</i>	3.133** (1.619)	3.962*** (2.111)	0.485 (0.236)	2.359* (1.102)
Observations	2,381			
Adj. R ²	0.121			
Subsample of Private/Collective Firms				
Variable	<i>DomFirm-</i>	<i>DomFirm+</i>	<i>PureExpFirm</i>	<i>AllSeller</i>
<i>IVloan</i>	3.850*** (0.656)	5.465*** (1.034)	11.907** (3.952)	10.837*** (2.151)
Observations	8,873			
Adj. R ²	0.107			

Note: ***, ** and * denote 1%, 5% and 10% significance level respectively. Values in parentheses are standard errors. In all regressions, firm-level controls, industry and city fixed effected are included.

Table 9. Multi-destination Sales Shares

<i>Variables</i>	<i>outcityshare</i>	<i>outprovshare</i>	<i>expshare</i>
<i>IVloan</i>	0.118 (0.093)	0.098 (0.092)	0.020 (0.168)
<i>ln(Scale)</i>	-0.081*** (0.013)	0.116*** (0.013)	0.281*** (0.022)
<i>ln(Sales/L)</i>	0.095*** (0.019)	0.025 (0.019)	-0.361*** (0.033)
<i>ln(K/L)</i>	0.037*** (0.013)	0.067*** (0.013)	-0.142*** (0.022)
<i>Age</i>	0.000 (0.000)	-0.000 (0.000)	-0.001 (0.001)
<i>RD/Sales</i>	-0.016*** (0.005)	0.047*** (0.006)	-0.017** (0.008)
<i>Private</i>	-0.097* (0.053)	0.017 (0.049)	0.390*** (0.105)
<i>HMT</i>	-0.571*** (0.080)	-0.262*** (0.073)	1.508*** (0.124)
<i>Other Foreign</i>	-0.815*** (0.075)	-0.285*** (0.065)	1.969*** (0.118)
<i>Industry Fixed Effects</i>	Yes	Yes	Yes
<i>City Fixed Effects</i>	Yes	Yes	Yes
Observations		12,372	
Adj. R^2		0.267	

Note: ***, ** and * denote 1%, 5% and 10% significance level respectively. Values in parentheses are standard errors.